

048/3319/AG

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Dear Mathew

### Bradley Villa Farm, Huddersfield (Revised drainage investigation)

Further to recent correspondence and completion of fieldwork at the above site please find enclosed a summary of our findings.

**Background.** Lithos have previously issued a Geoenvironmental Appraisal report (Ref. 3319/1 dated March 2019) to the landowner. A letter report Ref. 035/3319/MJT was also issued on the 16<sup>th</sup> November 2020 to Redrow Homes with the findings of a mining, gas and groundwater investigation undertaken in the vicinity of previous proposed drainage infrastructure.

The location of the drainage infrastructure has been revised; the location of the proposed attenuation basin lies within an area previously investigated, however the location of the attenuation tank now lies beyond the area considered in our previous letter report.

The proposed drainage infrastructure is shown on Drawing 3319/6 Rev A (north) appended.

The purpose of this supplementary investigation was to enable:

- Assessment of potential risks associated with underground mining of the Better Bed coal beneath the area of proposed drainage infrastructure
- Assessment of the nature of any made ground including:
  - Visual/olfactory evidence of potential contamination and the proportion of undesirable elements e.g. biodegradable matter, relict foundations etc
- Assessment of the nature, distribution and thickness of shallow soils
- Assessment of the suitability of the ground for founding the proposed attenuation tank.

**Coal Authority information.** The residential development lies within a Coal Authority Development Low Risk Area, and no significant subsidence risk was identified.

The proposed drainage infrastructure lies within a High Risk Area due to the presence of the Better Bed Coal seam, which outcrops in the northwest of the proposed basin. The approximate line of the outcrop is shown on Drawing 3319/6 Rev C (north).

A Coal Authority Consultant's Mining Report has been obtained for the area of proposed drainage; a copy is appended to this letter.

In summary, the mining report shows the line of the Better Bed coal seam to cross the area of drainage infrastructure (shown as proven in the south-west, and conjectured in the north-east).

Recorded shallow mine workings are present beneath the area, associated with the Better Bed seam, which is recorded as 10m depth with an extraction thickness of 0.6m last mined in 1881. Probable unrecorded workings are also shown. The CA records the Better Bed as dipping 1.4° to the south-east.



Two disused adits are shown just south of the Better Bed outcrop, but beyond the area of proposed drainage infrastructure (refs 414420-008 & 414420-008). In addition, an adit and a mine shaft are also shown just north of the area of proposed drainage infrastructure (refs 41520-001 & 415420-002). No further information (treatment & conveyancing details etc) is available on the CA report. The location of each of these features is shown on Drawing 3319/6 (north).

In addition, two abandonment plans have been obtained, both for the Better Bed coal seam worked at the Highpark Colliery (ref. 1493) and the Bradford Road Colliery (ref. 7712), abandoned in 1883 and 1923 respectively. Both plans are reproduced as Drawings 3319/19 and 3319/20 appended.

**Plan 1493** shows the Better Bed seam outcropping across the proposed area of drainage infrastructure with recorded workings shown down-dip of the outcrop, underlying the centre and east of the proposed attenuation pond, the underground storage tank and the sewer. Further south, the area is mapped as underlain by 'Old Workings' (i.e. unrecorded workings present prior to the mining recorded on the plan). The CA recorded shaft and adit shown on CA plans to the north-east (refs 41520-001 & 415420-002) are also shown on this plan.

**Plan 7712** also shows workings within the Better Bed seam, outcropping in the same location. The recorded workings on this plan are mostly outside of the proposed drainage infrastructure, although 'Old Workings' are shown in the south-east of the proposed pond and beneath the proposed storage tank and sewer; it is likely that the old workings referred to here are those shown on Plan 1493.

**Fieldwork** within the previous area of proposed drainage was carried out on the 22<sup>nd</sup> to the 25<sup>th</sup> September 2020, and comprised a total of 5 trial trenches, 4 trial pits and 25 rotary open probeholes. Further fieldwork in the area of revised drainage infrastructure was also undertaken on the 30<sup>th</sup> June and the 1<sup>st</sup> July and comprised 7 trial pits and 5 rotary open probeholes, as summarised in the table overleaf.

Exploratory hole logs are appended to this letter, together with Drawing 3319/6 (north & south), which shows exploratory hole locations.

| Date           | Technique                     | Exploratory holes | Remarks                                                                                                          |
|----------------|-------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------|
| September 2020 | Trial Trenching (machine dug) | TTs 101 to 105    | To identify the location of the Better Bed coal seam outcrop.                                                    |
|                | Trial pitting (machine dug)   | TPs 101 to 104    | To enable examination of shallow ground conditions north & south of the Better Bed coal seam outcrop.            |
|                | Rotary open-hole probeholes   | PHs 101 to 113    | To allow installation of gas & groundwater monitoring wells within the area of proposed residential development. |
|                |                               | PHs 114 to 125    | To investigate the depth and thickness of the Better Bed seam, along with the presence of any workings.          |
|                |                               | PHs 121 to 123    | To allow installation of groundwater monitoring wells in the footprint of the proposed attenuation pond.         |
| June 2021      | Trial pitting (machine dug)   | TPs 201 to 207    | To enable examination of shallow ground conditions within the footprint of the updated proposed drainage layout. |
| July 2021      | Rotary open-hole probeholes   | PHs 201 to 205    | To investigate the depth and thickness of the Better Bed seam, along with the presence of any workings.          |

**Trial trenches & pits.** Trial trenches were excavated perpendicular to the suspected location of the Better Bed coal seam (based on BGS plans).

Logs are appended showing the ground conditions encountered in the north (N), centre (C) and south (S) of each trench. Typically, the north of each trench encountered topsoil/made ground over residual soils (typically firm/stiff clay) with coal (0.1m to 0.4m thick) beneath, assumed to be the Better Bed coal seam.

As the trenches extended further south, they encountered **Backfill Material (made ground)**; typically gravelly clay with mudstone and coal, but occasionally other materials such as timber, glass, cloth and plastic.

In addition, four trial pits (TPs 101 to 104) were excavated to enable examination of shallow ground conditions north & south of the Better Bed outcrop. TPs 101 & 103 (north of the outcrop) encountered topsoil over residual soils, with Coal Measures bedrock at <3m. TPs 102 & 104 (south of the outcrop) encountered topsoil over Backfill Material (made ground) to >4.5m depth.

Made Ground was also encountered in the north of the proposed attenuation storage tank within TPs 201, 202 & 204 to depths of between 0.6m and >3.1m, becoming deeper to the north towards the Better Bed Coal seam outcrop. Topsoil over Residual Soils were encountered within TP203 & TP205.

**Rotary probeholes (mining investigation).** PHs 117 to 124 were advanced beneath the proposed attenuation pond and PHs 201 to 205 were advanced within the area of the proposed attenuation storage tank in order to assess risks associated with underground mining in the Better Bed seam.

In two holes south-east of the proposed tank & pond (PHs 114 & 115) and in PH201 in the south of the attenuation tank, coal was encountered between 8.4m and 13m depth (ranging between 0.3m and 0.8m thick), most likely the intact Better Bed coal seam, which has a maximum recorded thickness on BGS plans of 0.7m.

Further north and west (PHs 116 to 125 and 202 to 205), no significant thicknesses of coal were encountered. In the majority of probeholes located south-east (down-dip) of the outcrop, made ground was encountered to depths of between 3.6m and 8.1m, generally becoming deeper to the south-east. Within PHs 202, 205 & 205 workings were encountered within the Better Bed Coal seam, however, these were overlain by natural residual soils.

The findings of the mining investigation probeholes are summarised in the table below:

| Hole ID | Final Depth (mbgl) | Depth to base (thickness) |                 |                      | Nature of workings | Thickness of competent cover (m) | Cover ratio | Remarks                                                                                                |
|---------|--------------------|---------------------------|-----------------|----------------------|--------------------|----------------------------------|-------------|--------------------------------------------------------------------------------------------------------|
|         |                    | Overburden/made ground    | Better Bed coal | Underground workings |                    |                                  |             |                                                                                                        |
| PH114   | 22.5               | 0.8                       | 18.8 (0.8)      | -                    | -                  | 17.2                             | 22          | -                                                                                                      |
| PH115   | 30.0               | 0.8                       | 13.5 (0.5)      | -                    | -                  | 12.2                             | 24          | -                                                                                                      |
| PH116   | 24.0               | 8.2                       | -               | -                    | -                  | N/A                              | -           | Small void/soft push noted at 7.8m to 8.2m                                                             |
| PH117   | 15.0               | 6.3                       | -               | -                    | -                  | N/A                              | -           | -                                                                                                      |
| PH118   | 10.5               | 6.0                       | -               | -                    | -                  | N/A                              | -           | Flash of coal at 6.0m to 6.2m                                                                          |
| PH119   | 12.0               | 8.1                       | -               | -                    | -                  | N/A                              | -           | -                                                                                                      |
| PH120   | 9.0                | 6.5                       | -               | -                    | -                  | N/A                              | -           | -                                                                                                      |
| PH121   | 4.5                | 3.6                       | -               | -                    | -                  | N/A                              | -           | Drilled primarily to enable installation of groundwater monitoring well in attenuation pond footprint. |
| PH122   | 4.0                | >4.0                      | -               | -                    | -                  | N/A                              | -           |                                                                                                        |
| PH123   | 4.0                | >4.0                      | -               | -                    | -                  | N/A                              | -           |                                                                                                        |
| PH124   | 3.0                | 3.9                       | -               | -                    | -                  | N/A                              | -           | -                                                                                                      |
| PH125   | 15.0               | 5.5                       | -               | -                    | -                  | N/A                              | -           | -                                                                                                      |
| PH201   | 12.0               | 1.8                       | 8.7 (0.3 thick) | -                    | -                  | N/A                              | -           | -                                                                                                      |

| Hole ID | Final Depth (mbgl) | Depth to base (thickness) |                 |                      | Nature of workings             | Thickness of competent cover (m) | Cover ratio | Remarks                                                                        |
|---------|--------------------|---------------------------|-----------------|----------------------|--------------------------------|----------------------------------|-------------|--------------------------------------------------------------------------------|
|         |                    | Overburden/made ground    | Better Bed coal | Underground workings |                                |                                  |             |                                                                                |
| PH202   | 10.5               | 1.5                       | -               | 7.6 (0.4)            | Very soft push & loss of flush | 5.7                              | 14*         | Very soft push & loss of flush between 7.2m and 7.6m (worked Better Bed coal). |
| PH203   | 9.5                | 6.5                       | -               | -                    | -                              | N/A                              | -           | Soft push & no flush between 0.0m and 6.5m.                                    |
| PH204   | 9.0                | 2.0                       | -               | 6.1 (0.3)            | Soft push & no returns         | 3.8                              | 12*         | Soft push with no returns between 5.8m and 6.1m (worked Better Bed coal)       |
| PH205   | 10.3               | 2.0                       | -               | 7.7 (0.4)            | Soft push & no returns         | 5.3                              | 13*         | Soft push with no returns between 7.3 and 7.7m                                 |

Notes: Cover ratio based on thickness of void/broken ground encountered in individual probeholes.

\* - Cover ratio over the invert of the attenuation tank is approximately 9.

The cover ratio over the invert (140.77m AOD) of the proposed attenuation tank is approximately 9, with the thickness of rock between the invert and the top of the collapsed workings approximately 3.6m to 3.8m. Although this is slightly less than 10x the extracted thickness, given the net unloading of this area following construction of the tank, this is considered acceptable.

In addition to the above, PHs 101 to 113 were drilled to shallow depths within the proposed area of residential development to the south to enable installation of gas & groundwater monitoring wells.

**Contamination.** The sites former usage is considered unlikely to have given rise to any significant ground contamination. However, samples of topsoil have been recovered in order to confirm its suitability for re-use and samples of made ground have been recovered to identify any contamination.

In the context of risks to human health associated with residential redevelopment, the Tier 1 Soil Screening Values referenced in this report have been derived via the CLEA default conceptual site model (CSM) used for generating SGVs, but amended, where appropriate, to be more specific to redevelopment within the planning process.

Where available, Category 4 Screening Levels (C4SL) have also been referenced. Generic Note 04 in **Error! Reference source not found.** provides further details with respect to current guidance and the interpretation of analytical data.

Based on the above assessment, Lithos submitted a test schedule (summarised in the table below) to a UKAS accredited laboratory.

| Type of sample | No. of samples | Determinands                                                                                                                                                                                                                                                                                          |
|----------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Made ground    | 7              | pH, water soluble boron, and total metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium and zinc) & Asbestos ID<br>Water soluble sulphate, chloride, nitrate and magnesium<br>TOC, Speciated Polycyclic Aromatic Hydrocarbons (PAH), Banded Total Petroleum Hydrocarbons (TPH) |
| Topsoil        | 2              | pH, water soluble boron, and total metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium and zinc) & Asbestos ID<br>Speciated Polycyclic Aromatic Hydrocarbons (PAH)                                                                                                            |

## BRADLEY VILLA FARM – FINDINGS OF FIELDWORK



### Summary of degree of soils contamination (topsoil)

| Expl Hole | Depth (m) | Material | Concentrations in mg/kg unless otherwise stated. Results are quoted to 1 decimal place if <10, and whole numbers if >10. Trigger Level Concentrations are shown in <b>BLUE</b> and assume a <b>residential with gardens</b> end-use. |      |     |      |      |       |      |        |     |     |       |       |                        |
|-----------|-----------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|------|------|-------|------|--------|-----|-----|-------|-------|------------------------|
|           |           |          | pH                                                                                                                                                                                                                                   | As ∞ | B ~ | Cd ∞ | Cr x | Cu♣\$ | Pb ∞ | Hg *   | Ni  | Se  | Zn \$ | % TOC | PAH                    |
|           |           |          |                                                                                                                                                                                                                                      | 37   | 5   | 26   | 3000 | 200   | 200  | 169    | 127 | 350 | 200   |       | B(a)P ∞<br>Naphthalene |
| TP203     | 0.2       | Topsoil  | 7.0                                                                                                                                                                                                                                  | 19   | 0.5 | 0.3  | 26   | 44    | 63   | < 0.05 | 24  | 0.8 | 96    | 4.4   | < 0.03                 |
| TP205     | 0.2       | Topsoil  | 7.7                                                                                                                                                                                                                                  | 17   | 0.7 | 0.3  | 23   | 35    | 59   | < 0.05 | 22  | 0.6 | 94    | 4.1   | < 0.03                 |

### Summary of degree of soils contamination (inorganics)

| Expl Hole | Depth (m) | Material             | Concentrations in mg/kg unless otherwise stated. Results are quoted to 1 decimal place if <10, and whole numbers if >10. Trigger Level Concentrations are shown in <b>BLUE</b> and assume a <b>residential with gardens</b> end-use. |           |       |       |      |       |      |      |     |       |      |          |
|-----------|-----------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------|-------|------|-------|------|------|-----|-------|------|----------|
|           |           |                      | pH                                                                                                                                                                                                                                   | As ∞      | B~    | Cd ∞  | Cr x | Cu♣\$ | Pb ∞ | Hg*  | Ni  | Se    | Zn\$ | Asbestos |
|           |           |                      |                                                                                                                                                                                                                                      | 37        | 5     | 26    | 3000 | 200   | 200  | 169  | 127 | 350   | 200  |          |
| TP201     | 0.20      | Made Ground Topsoil  | 6.8                                                                                                                                                                                                                                  | 22        | 0.6   | 0.4   | 32   | 45    | 90   | 0.9  | 24  | < 0.5 | 130  | N.D.     |
| TP202     | 0.10      | Made Ground Topsoil  | 7.1                                                                                                                                                                                                                                  | 10        | 0.3   | 0.2   | 24   | 44    | 35   | 0.4  | 33  | 0.6   | 100  | N.D.     |
| TP204     | 0.20      | Made Ground Topsoil  | 6.3                                                                                                                                                                                                                                  | <b>44</b> | 0.8   | 0.5   | 78   | 68    | 100  | 0.2  | 23  | 0.7   | 150  | N.D.     |
| TP201     | 0.60      | Cohesive Made Ground | 7.8                                                                                                                                                                                                                                  | 9.4       | 0.6   | 0.2   | 23   | 45    | 27   | <0.1 | 37  | < 0.5 | 80   | N.D.     |
| TP202     | 1.80      | Cohesive Made Ground | 7.9                                                                                                                                                                                                                                  | 3.8       | 0.3   | < 0.1 | 24   | 40    | 23   | <0.1 | 41  | < 0.5 | 90   | N.D.     |
| TP204     | 0.40      | Granular Made Ground | 7.8                                                                                                                                                                                                                                  | 5.8       | < 0.2 | < 0.1 | 22   | 28    | 20   | <0.1 | 31  | < 0.5 | 80   | N.D.     |
| TP202     | 0.90      | Granular Made Ground | 7.7                                                                                                                                                                                                                                  | 6.9       | 0.3   | 0.1   | 22   | 43    | 21   | <0.1 | 40  | < 0.5 | 89   | N.D.     |

| Key        |                                                                          | Source of guidance trigger level                                                                                                                                 |                                                                                                                                                                                                                                                                                                                          |
|------------|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>36</b>  | Parameter tested for and found to be in excess of Tier 1 value.          | With the exception of those annotated with one of the symbols below (∞, \$, ~), all Soil Screening Values in brackets above have been derived using CLEA v1.071. |                                                                                                                                                                                                                                                                                                                          |
| <b>179</b> | Parameter tested for and found to be > 5 x Tier 1 value.                 |                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                          |
| 12         | Parameter tested for but not found to be in excess of Tier 1 value.      | ∞                                                                                                                                                                | Category 4 Screening Level – SP1010, December 2013 (CL:AIRE/Defra).                                                                                                                                                                                                                                                      |
|            | Parameter not tested for.                                                | \$                                                                                                                                                               | MAFF. Code of Practice for Agricultural Practice for the Protection of Soil, 1998.                                                                                                                                                                                                                                       |
| ♣          | Tier 1 Value is pH dependent.                                            | ~                                                                                                                                                                | Engineering judgement (Lithos). Boron is a phytotoxic, although most phytotoxic compounds can pose a risk to human health if sufficient concentrations are present. However, plants represent the most sensitive receptor, and a Tier 1 value which is protective of flora is therefore also protective of human health. |
| x          | Assumes Cr is CrIII. If demonstrated Cr is CrVI Tier 1 would be 21mg/kg. |                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                          |
| ND         | No fibres detected (asbestos screen)                                     |                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                          |
|            |                                                                          | *                                                                                                                                                                | Assumes mercury present as an inorganic compound (cf elemental metal or within organic compound). See Science Report SC050021/Mercury SGV.                                                                                                                                                                               |

## Summary of degree of soils contamination (organics)

| Expl Hole | Depth (m) | Material             | Concentrations in mg/kg. Results are quoted to 1 decimal place if <10, and whole numbers if >10.<br>Trigger Level Concentrations are shown in <b>BLUE</b> and assume a <b>residential with gardens (and no cover)</b> end use |                |             |                                           |                                                      |                                           |
|-----------|-----------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------|-------------------------------------------|------------------------------------------------------|-------------------------------------------|
|           |           |                      | % TOC                                                                                                                                                                                                                         | PAH            |             | TPH - C6 to C40                           |                                                      |                                           |
|           |           |                      |                                                                                                                                                                                                                               | B(a)P $\infty$ | Naphthalene | GRO~<br>C <sub>6</sub> to C <sub>10</sub> | DRO $\diamond$<br>C <sub>10</sub> to C <sub>21</sub> | LRO<br>C <sub>21</sub> to C <sub>40</sub> |
|           |           |                      |                                                                                                                                                                                                                               | 5              | 8           | 30                                        | 151                                                  | 1000                                      |
| TP201     | 0.20      | Made Ground Topsoil  | 4.9                                                                                                                                                                                                                           | <0.1           | <0.1        | <0.1                                      | <30                                                  | 26                                        |
| TP202     | 0.10      | Made Ground Topsoil  | 4.0                                                                                                                                                                                                                           | <0.1           | <0.1        | <0.1                                      | <30                                                  | <20                                       |
| TP204     | 0.20      | Made Ground Topsoil  | 5.9                                                                                                                                                                                                                           | <0.1           | <0.1        | <0.1                                      | <30                                                  | <20                                       |
| TP201     | 0.60      | Cohesive Made Ground | 3.2                                                                                                                                                                                                                           | <0.1           | <0.1        | <0.1                                      | <30                                                  | <20                                       |
| TP202     | 1.80      | Cohesive Made Ground | 1.8                                                                                                                                                                                                                           | <0.1           | <0.1        | <0.1                                      | <30                                                  | <20                                       |
| TP204     | 0.40      | Granular Made Ground | 1.4                                                                                                                                                                                                                           | <0.1           | <0.1        | <0.1                                      | <30                                                  | <20                                       |
| TP202     | 0.90      | Granular Made Ground | 4.0                                                                                                                                                                                                                           | <0.1           | <0.1        | <0.1                                      | 31                                                   | 32                                        |

| Key |                                                                 | Source of guidance trigger level                                                                                                                                        |                                                                     |
|-----|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| 60  | Parameter tested for and in excess of Tier 1 concentration.     | All Soil Screening Values in brackets above have been derived using CLEA v1.071. Values assume contaminants located in a sandy loam, with 6% soil organic matter (SOM). |                                                                     |
| 0.3 | Parameter tested for but not in excess of Tier 1 concentration. | ~                                                                                                                                                                       | Assumes all GRO is aromatic fraction C7 to C8.                      |
|     | Contaminant not tested for.                                     | $\diamond$                                                                                                                                                              | Assumes all DRO is aliphatic fraction C10 to C12.                   |
|     |                                                                 | $\infty$                                                                                                                                                                | Category 4 Screening Level – SP1010, December 2013 (CL:AIRE/Defra). |

**Inorganic determinands.** Of the 7 samples of made ground and 2 samples of topsoil analysed for inorganic parameters, 8 can be classified as uncontaminated and 1 sample of made ground could be classified as contaminated.

These samples have been classified by comparison with Tier 1 Soil Screening Values for an end use including domestic gardens and any area where plants are to be grown (the most sensitive of proposed end-uses).

One sample of Made Ground Topsoil yielded an elevated arsenic concentration of 44 mg/kg. The screening value above assumes a residential end use with gardens and no cover which is considered to be conservative for this area of site as it is proposed to be developed as an attenuation tank and pond.

Therefore, a more realistic screening value for the soft landscaping above the attenuation tank is the C4SL screening value for POSresi (Public Open Space residential). This POS scenario assumes an open space of at least 0.05ha which is used regularly by children for recreation, where 'tracking back' of soil to a house nearby could occur.

The POSresi screening value for arsenic is 79mg/kg and consequently the concentration of 44mg/kg of arsenic within the made ground topsoil is below the revised screening value and therefore not considered significant and no special remedial measures are considered necessary.

However, made ground topsoil stripped from within the area of the proposed attenuation tank and pond should be stockpiled and retained within the area, not spread within the gardens of new build houses in the south.

**Asbestos.** No asbestos fibres were identified in any of the 9 samples screened.

**Organic determinands.** This site is essentially greenfield and therefore for organic compounds, the Tier 1 Values used in this report have been derived with reference to a CSM that assumes a residential with gardens end use, with no clean soil cover will be placed in gardens/landscaped areas (Lithos Scenario A).

Lithos have used the CLEA model to derive risk-based screening values for hydrocarbons, in accordance with the methodology detailed by the TPHCWG, and reviewed by a UK workshop of experts with respect to UK adoption of the method.

However, these screening values assume a Soil Organic Matter (SOM) of 6% (equivalent to a TOC of 3.5%). Many organic contaminants are more mobile when the SOM is lower, and consequently comparison of soil results with lower screening values may be required.

In order to check the validity of Lithos' Tier 1 Soil Screening Values, the average TOC for each common fill type (beyond any areas of obvious hydrocarbon impact) have been determined.

| Fill type            | Typical TOC (%) | Comparison of soil results with revised screening value necessary?                                                                                             |
|----------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Made Ground Topsoil  | 5%              | No                                                                                                                                                             |
| Cohesive Made Ground | 2.5%            | Yes, but no significant organic contamination was recorded in this soil type. All determinands well below "6%" screening value; most below limit of detection. |
| Granular Made Ground | 2.7%            |                                                                                                                                                                |
| Topsoil              | 7.4%            | No                                                                                                                                                             |

**Hydrocarbons (TPH & PAH).** Given the lack of visual/olfactory evidence of any hydrocarbon contamination, only a simple banded TPH (cf full speciation) was initially scheduled on 7 samples.

Assessment of TPH associated with a fuel/oil source would normally be undertaken in accordance with a 3-step approach, (outlined in Generic Note 04 in **Error! Reference source not found.**) on fully speciated TPH results. However, although only banded TPH analysis has been scheduled here, none of the fractions exceed their respective Tier 1 criteria, even if it is conservatively assumed all of each fraction is either aliphatic or aromatic.

Consequently, no significant petroleum hydrocarbon concentrations have been identified, and there is no risk to human health from these hydrocarbons.

**Topsoil** (and made ground topsoil), typically 300mm thick is present across the area of proposed drainage infrastructure. Testing suggests this material is chemically suitable for re-use within the area of proposed drainage only.

Given the nature of the topsoil present on this site it would be expected to be suitable to support plant growth.

**Revised conceptual ground model (contamination).** No plausible contaminant linkages have been identified.

**Geotechnical testing.** A total of 6 samples of natural soil were delivered to a suitably accredited laboratory with a schedule of geotechnical testing drawn up by Lithos.

The geotechnical laboratory test results are presented in the appendices to this letter report.

**Particle size distribution.** The grading of two samples of Cohesive Made Ground and one sample of Granular Residual Soil have been determined by wet sieving and the results are summarised in the table below:

| Sample & depth | Field description                                          | % passing 37.5mm sieve | % passing 20mm sieve | % passing 2mm sieve | % fines | Material description (based on grading & plasticity) |
|----------------|------------------------------------------------------------|------------------------|----------------------|---------------------|---------|------------------------------------------------------|
| TP201, 1.0m    | Gravelly CLAY (MG)                                         | 100                    | 95                   | 80                  | 61.8    | Slightly sandy slightly gravelly CLAY.               |
| TP202, 1.6m    | Gravelly CLAY (MG)                                         | 93                     | 83                   | 56                  | 44.5    | Gravelly slightly sandy CLAY.                        |
| TP204, 1.8m    | Clayey angular to subangular tabular fine to coarse GRAVEL | 100                    | 100                  | 95                  | 91.9    | Slightly sandy slightly gravelly CLAY.               |

Fines (silt and clay) were found to comprise between 44.5% and 91.9% (average 66%) of the material sampled.

The sample within TP204, 1.8m was logged as a clayey Gravel, however, the material description based on the grading was a slightly sandy slightly gravelly Clay. This is likely due to the gravel comprising a weak mudstone that easily breaks during the wet sieving process. Consequently, due to its low strength, the gravel could be regarded as shrinkable.

The gravelly clay also encountered on this site can therefore be regarded as shrinkable.

**Soluble sulphate, chloride & nitrate and pH.** In accordance with BRE SD1<sup>1</sup>, this area of site has been classified as brownfield with a mobile groundwater regime.

It is envisaged foundations will extend through made ground and natural strata and samples taken from this depth range have been submitted for pH and water-soluble sulphate (2:1 soil/water extract).

The highest water-soluble sulphate concentration and the lowest pH value for each soil type analysed are shown in the table below.

| Soil type            | No. samples tested | Lowest pH values | Highest soluble sulphate concentration (mg/l) |
|----------------------|--------------------|------------------|-----------------------------------------------|
| Cohesive Made Ground | 2                  | 7.8              | 22                                            |
| Granular Made Ground | 2                  | 7.7              | 37                                            |

pH values were all above 5.5, therefore concentrations of chloride and nitrate are considered insignificant.

In accordance with Tables C1 and C2 of SD1, sub-surface concrete should be Design Sulphate Class **DS-1**, with the site allocated an ACEC Classification of **AC-1**.

**Compaction tests.** Laboratory compaction tests are useful wherever ground improvement is anticipated, for example to provide a satisfactory CBR beneath proposed highways.

In accordance with BS5930<sup>2</sup> engineered fill is defined as material which is selected, placed and compacted to an appropriate specification so that it will exhibit the required engineering behaviour.

Grading and moisture content control the degree to which materials can be effectively compacted. If the grading or moisture content of an in-situ material is not suitable to facilitate its compaction then screening, wetting, or lime addition may be required.

Laboratory compaction testing was scheduled on 2 samples of Cohesive Made Ground and one sample of Residual Soil (using a 2.5kg rammer) to determine their suitability for re-engineering.

Laboratory compaction tests are only appropriate if:

- At least 90% of the material passes the 37.5mm sieve; and/or
- At least 70% of the material passes the 20mm sieve

It is apparent from the gradings tabulated, that the samples scheduled for compaction tests are suitable (i.e. at least 70% of the material is finer than 20mm).

The results are summarised in the tables below:

| Sample location & depth | Material description                                         | % passing 37.5mm sieve | % passing 20mm sieve |
|-------------------------|--------------------------------------------------------------|------------------------|----------------------|
| TP201, 1.0m             | Slightly sandy slightly gravelly CLAY (Cohesive Made Ground) | 100                    | 95                   |
| TP202, 1.6m             | Gravelly slightly sandy CLAY (Cohesive Made Ground)          | 93                     | 83                   |
| TP204, 1.8m             | Slightly sandy slightly gravelly CLAY (Residual Soil)        | 100                    | 100                  |

<sup>1</sup> BRE Special Digest 1 (2005) – Concrete in aggressive ground.

<sup>2</sup> BS5930 (2015) - Code of practice for ground investigations.

| Sample location & depth | Material description                                                  | G <sub>s</sub><br>(Mg/m <sup>3</sup> ) | MDD<br>(Mg/m <sup>3</sup> ) | OMC<br>(%) | Allowable mc range<br>for 95% MDD & <5%<br>air voids | Typical in-situ<br>moisture content (%) |
|-------------------------|-----------------------------------------------------------------------|----------------------------------------|-----------------------------|------------|------------------------------------------------------|-----------------------------------------|
| TP201,<br>1.0m          | Slightly sandy slightly<br>gravelly CLAY<br>(Cohesive Made<br>Ground) | 2.65                                   | 1.76                        | 14.8       | 17.0 - 20.0                                          | 15.3                                    |
| TP202,<br>1.6m          | Gravelly slightly<br>sandy CLAY<br>(Cohesive Made<br>Ground)          | 2.65                                   | 1.81                        | 13.6       | 15.8 - 18.2                                          | 17.5                                    |
| TP204,<br>1.8m          | Slightly sandy slightly<br>gravelly CLAY<br>(Residual Soil)           | 2.65                                   | 1.69                        | 15.1       | 20.0 – 22.4                                          | 20.2                                    |

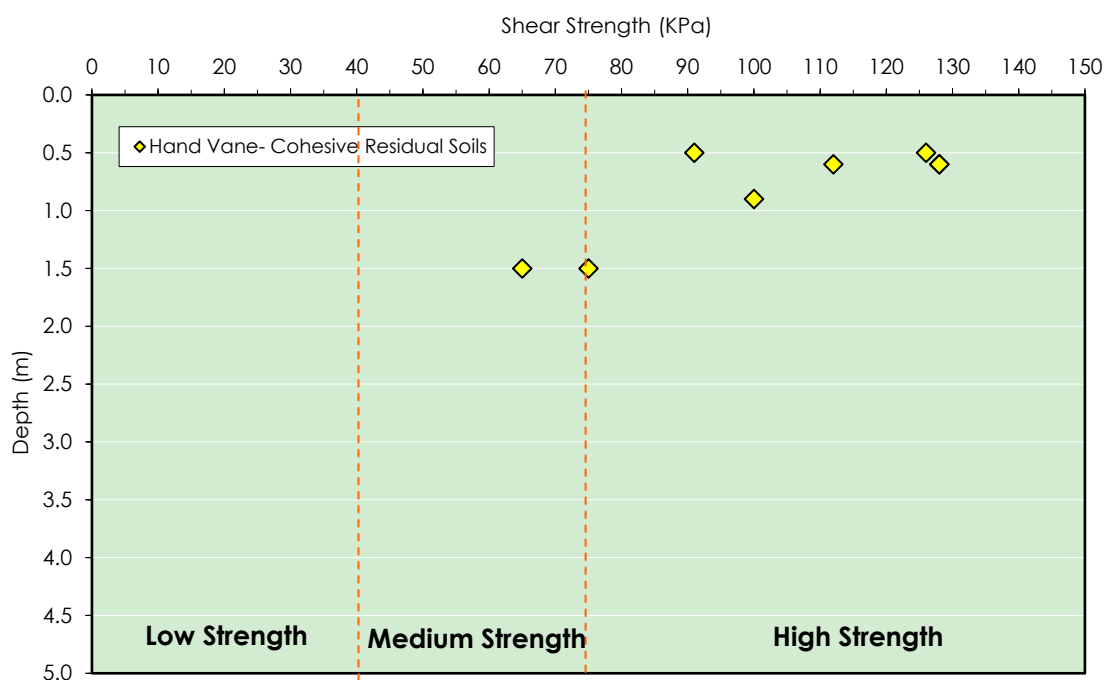
It is apparent that the in-situ moisture content of the Cohesive Made Ground and Residual soil is generally within the allowable moisture content range to achieve 95% MDD. On this basis it is considered that the Made Ground and Residual Soil is suitable for re-engineering.

Acceptability of the soils for use in the proposed controlled earthworks will need detailed appraisal by the Earthworks Designer in light of the required performance characteristics.

**Undrained shear strength testing – hand shear vane testing.** Hand shear vane testing was undertaken within trial pits in-situ to around 1.0m depth and from larger blocks of clay excavated below that depth.

The results are summarised within the plot below and illustrate the Cohesive Residual soils to have a shear strength ( $S_u$ ) of typically greater than 60kPa (medium to high strength). The plot below provides a summary of undrained shear strengths within the footprint of the proposed drainage infrastructure.

Hand Vane- Cohesive Residual Soils



## Discussion & Conclusions

Where underground coal workings were encountered (PHs 202, 204 & 205) in the footprint of the drainage infrastructure there was enough competent cover ( $>10x$ ) in place from existing ground levels. However, the cover ratio over the invert (140.77m AOD) of the proposed attenuation tank is approximately 9, with the thickness of rock between the invert and the top of the collapsed workings approximately 3.6m to 3.8m. Although this is slightly less than  $10x$  the extracted thickness, given the net unloading of this area as a result of the cut earthworks and construction of the tank (even when full of water, it still represents a c. 50% net unloading per meter when compared to residual soil), this is considered acceptable.

Beneath the proposed attenuation pond and the northwest corner of underground storage tank, significant thicknesses of made ground have been encountered. The thickness of made ground appears to increase to the south-east in the direction of the coal seam dip.

CA information shows that the Better Bed seam was mined beneath this area by underground methods. However, evidence of underground mining was only encountered within PHs 202, 204 & 205 beneath or on the vicinity of the storage tank, whilst all other holes encountered made ground to significant depths, suggesting the seam may have been extracted by opencast methods, with the land subsequently backfilled on completion, or possibly that the mineworkings have collapsed across the majority of their footprint.

A small void was noted in PH116 at the base of the made ground (from 7.8m to 8.2m). Given that this lies within made ground strata, it is unlikely to be evidence of underground workings, and more likely a void within the Backfilled Material (e.g. between coarse boulders/cobbles within the fill).

**Implications for drainage.** Significant thicknesses of made ground have been encountered, likely associated with backfilling/collapse of former mineworkings, which will likely have implications for construction of the proposed attenuation pond and north west corner of underground tank.

The deepest proposed base level of the attenuation tank is 140.77mAOD, around 1.5m to 4.5m below current ground levels. PHs within the footprint of the tank encountered made ground / overburden to depths of between 1.5m and 6.5m (northwest corner)

The base of the attenuation pond will sit at 141.95mAOD, around 1m lower than current ground levels in the north of the pond and 5m lower than ground levels along the southern boundary of the pond. Beneath the pond, depth of made ground varies between 3.6m and 6.5m.

The findings of this investigation should be forwarded to the underground tank manufacturer, Yorkshire Water, the Drainage Designer and Redrow's Structural Engineer.

Given the presence of recorded workings beneath the pond, sewer and underground tank (as shown on abandonment plans), there is a chance of some associated voids remaining in the ground, although no such evidence was encountered during the fieldwork.

At this stage, the main sources of potential future movement that could affect proposed drainage infrastructure are:

- Self-settlement of deep made ground
- Migration of any remaining voids within mineworkings and resultant subsidence (considered unlikely)

Given the shallow depth of the workings (as indicated by the base of the made ground), some form of ground improvement would probably be the most appropriate technique to mitigate against risks of future movements, as opposed to consolidation by drilling & grouting. Such ground improvement could include turnover and re-engineering (with compaction) of the full thickness of made ground.

In addition, the lining of the pond will need to be carefully considered. Failure of the lining could result in infiltration of water through underlying made ground and subsequent ground movement

(settlement caused by wash out of fine soil particles). This is especially sensitive given the close proximity of the M62 motorway.

It is understood that Highways England have been consulted regarding drainage proposals, in particular the placement of an attenuation pond close to the westbound carriageway of the M62 and have raised no significant concerns. However, this was on the assumption of shallow, competent ground (Coal Measures bedrock). Given that significant thicknesses of made ground have now been encountered, it is recommended that Redrow send Highways England a copy of this report for their comment and input on any further investigation/assessment required.

Yours sincerely



Adam Gombocz  
Associate Director  
**for and on behalf of**  
**LITHOS CONSULTING LIMITED**

*Enc:* Drawing 3319/6 north & south – hole locations, conjectured coal outcrops & proposed drainage; Drawing 3319/19 – Abandonment Plan 1492; Drawing 3319/20 – Abandonment Plan 7712; Exploratory Hole Records (trial pit & probehole logs).

## APPENDICES

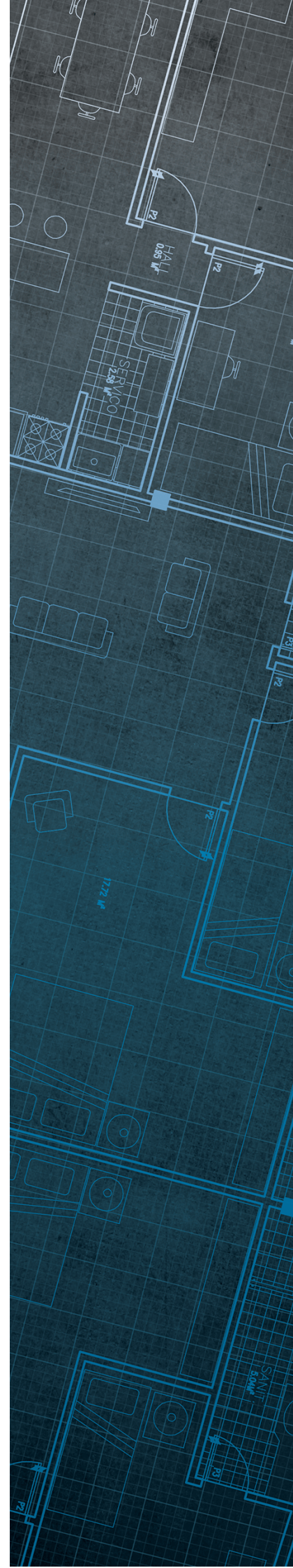


The Coal  
Authority

# Consultants Coal Mining Report

Kirklees Active Leisure  
Bradley Park Golf Club  
Bradley Park Golf Course  
Bradley Road  
Bradley  
Huddersfield  
Kirklees  
HD2 1PZ

|                        |                |
|------------------------|----------------|
| Date of enquiry:       | 2 October 2020 |
| Date enquiry received: | 2 October 2020 |
| Issue date:            | 2 October 2020 |
| Our reference:         | 51002313134001 |
| Your reference:        | 3319           |



# Consultants

## Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

### Client name

LITHOS CONSULTING LTD

### Enquiry address

Kirklees Active Leisure  
Bradley Park Golf Club  
Bradley Park Golf Course  
Bradley Road  
Bradley  
Huddersfield  
Kirklees  
HD2 1PZ

### How to contact us

0345 762 6848 (UK)  
+44 (0)1623 637 000 (International)

200 Lichfield Lane  
Mansfield  
Nottinghamshire  
NG18 4RG

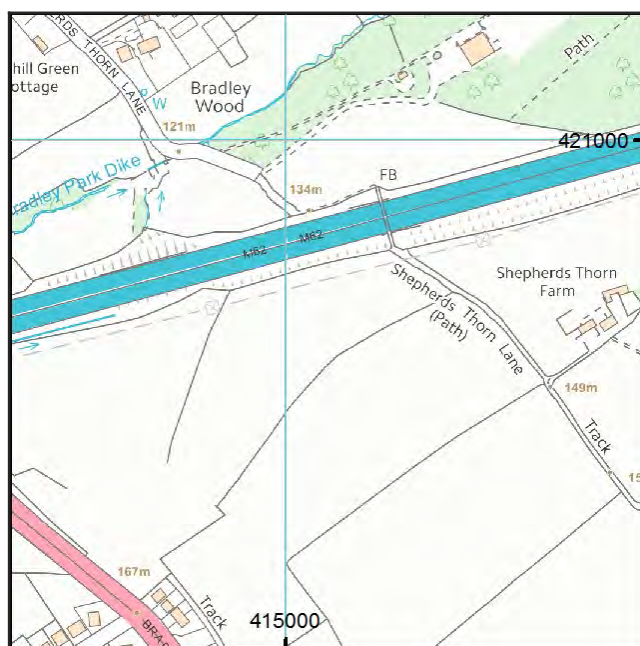
[www.groundstability.com](http://www.groundstability.com)

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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# Section 1 – Mining activity and geology

## Past underground mining

| Colliery | Seam       | Mineral | Coal Authority reference | Depth (m) | Direction to working | Dipping rate of seam worked (degrees) | Dipped direction of seam worked | Extraction thickness (cm) | Year last mined |
|----------|------------|---------|--------------------------|-----------|----------------------|---------------------------------------|---------------------------------|---------------------------|-----------------|
| unnamed  | BETTER BED | Coal    | 6HD3                     | 10        | Beneath Property     | 1.4                                   | South-East                      | 56                        | 1881            |

## Probable unrecorded shallow workings

Yes.

## Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

## Mine entries

| Entry type | Reference  | Grid reference | Treatment description | Mineral | Conveyancing details |
|------------|------------|----------------|-----------------------|---------|----------------------|
| Adit       | 414420-008 | 414944 420741  |                       | Coal    |                      |
| Adit       | 414420-009 | 414963 420748  |                       | Coal    |                      |
| Adit       | 415420-001 | 415099 420867  |                       | Coal    |                      |
| Shaft      | 415420-002 | 415093 420861  |                       | Coal    |                      |

## Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

|      |      |      |
|------|------|------|
| 7712 | 6698 | 1493 |
|------|------|------|

**Please contact us on 0345 762 6848** to determine the exact abandoned mine plans you require based on your needs.

## Outcrops

| Seam name  | Mineral | Seam workable | Distance to outcrop (m) | Direction to outcrop | Bearing of outcrop |
|------------|---------|---------------|-------------------------|----------------------|--------------------|
| BETTER BED | Coal    | Yes           | Within                  | N/A                  | 41                 |
| BETTER BED | Coal    | Yes           | Within                  | N/A                  | 240                |

**Geological faults, fissures and breaklines**

No faults, fissures or breaklines recorded.

**Opencast mines**

None recorded within 500 metres of the enquiry boundary.

**Coal Authority managed tips**

None recorded within 500 metres of the enquiry boundary.

## Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

### Site investigations

None recorded within 50 metres of the enquiry boundary.

### Remediated sites

None recorded within 50 metres of the enquiry boundary.

### Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

### Mine gas

None recorded within 500 metres of the enquiry boundary.

### Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

## Section 3 – Licensing and future mining activity

### Future underground mining

None recorded.

### Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

### Court orders

None recorded.

### Section 46 notices

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

### Withdrawal of support notices

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

### Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

## Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

### Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

**For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at [groundstability@coal.gov.uk](mailto:groundstability@coal.gov.uk).**

## Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at [groundstability@coal.gov.uk](mailto:groundstability@coal.gov.uk)**.

### Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

### Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

### Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

### Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

### Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

### Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

### Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

### **Opencast mines**

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

### **Coal Authority managed tips**

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

### **Site investigations**

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

### **Remediated sites**

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

### **Coal mining subsidence**

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

### **Mine gas**

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

### **Mine water treatment schemes**

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

### **Future underground mining**

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

### **Coal mining licensing**

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

### **Court orders**

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

### **Section 46 notices**

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

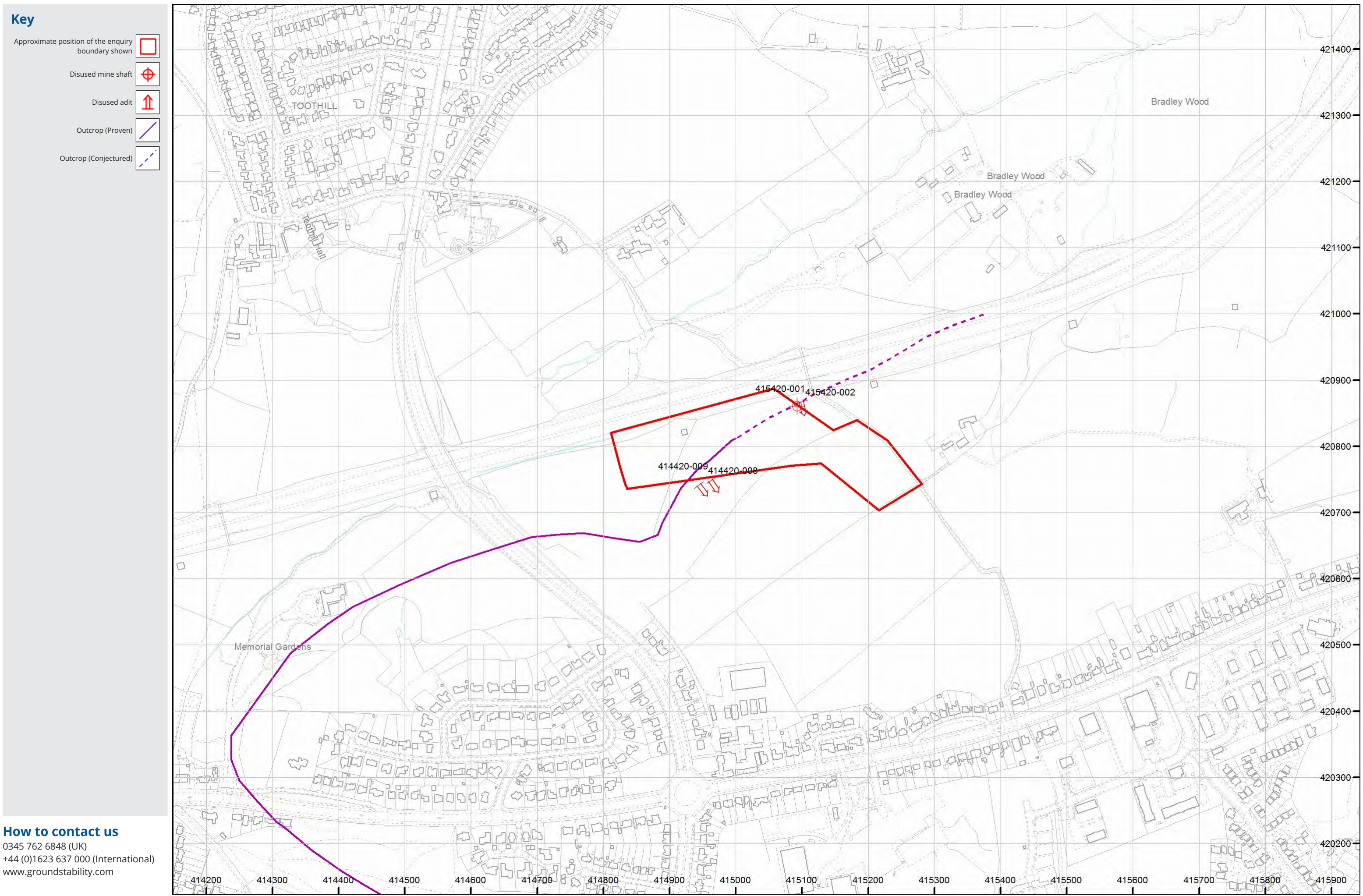
### **Withdrawal of support notices**

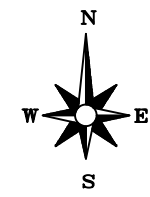
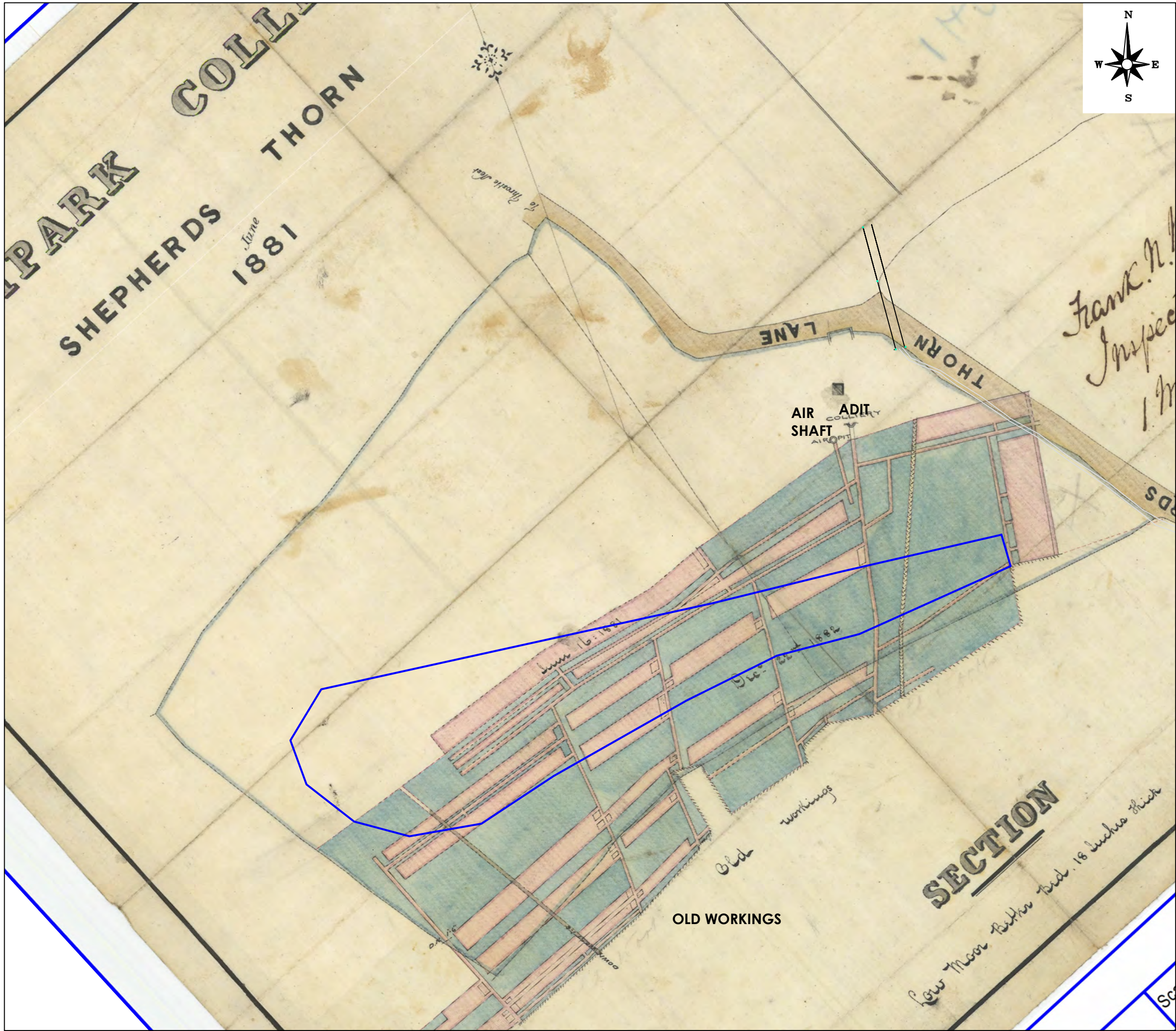
Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

### **Payment to owners of former copyhold land**

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

The map highlights any specific surface or subsurface features within or near to the boundary of the site.





NOTES

Reproduced from CA Abandonment Plan  
ref. 1493 for the Better Bed Sean; 1883  
Highpark Colliery

— OUTLINE OF DRAINAGE  
INFRASTRUCTURE

| REFERENCE                          |                                            |          |
|------------------------------------|--------------------------------------------|----------|
| 1881 JUNE 16 <sup>th</sup> COALCOT |                                            |          |
| 1882 DECEMBER 22 <sup>nd</sup>     |                                            |          |
| A                                  | ADDITION OF NEW PROPOSED DRAINAGE LOCATION | 15 07 21 |
| REV.                               | DESCRIPTION                                | DATE     |



info@lithos.co.uk  
www.lithos.co.uk  
Tel 01937 545330

CLIENT

REDROW  
HOMES

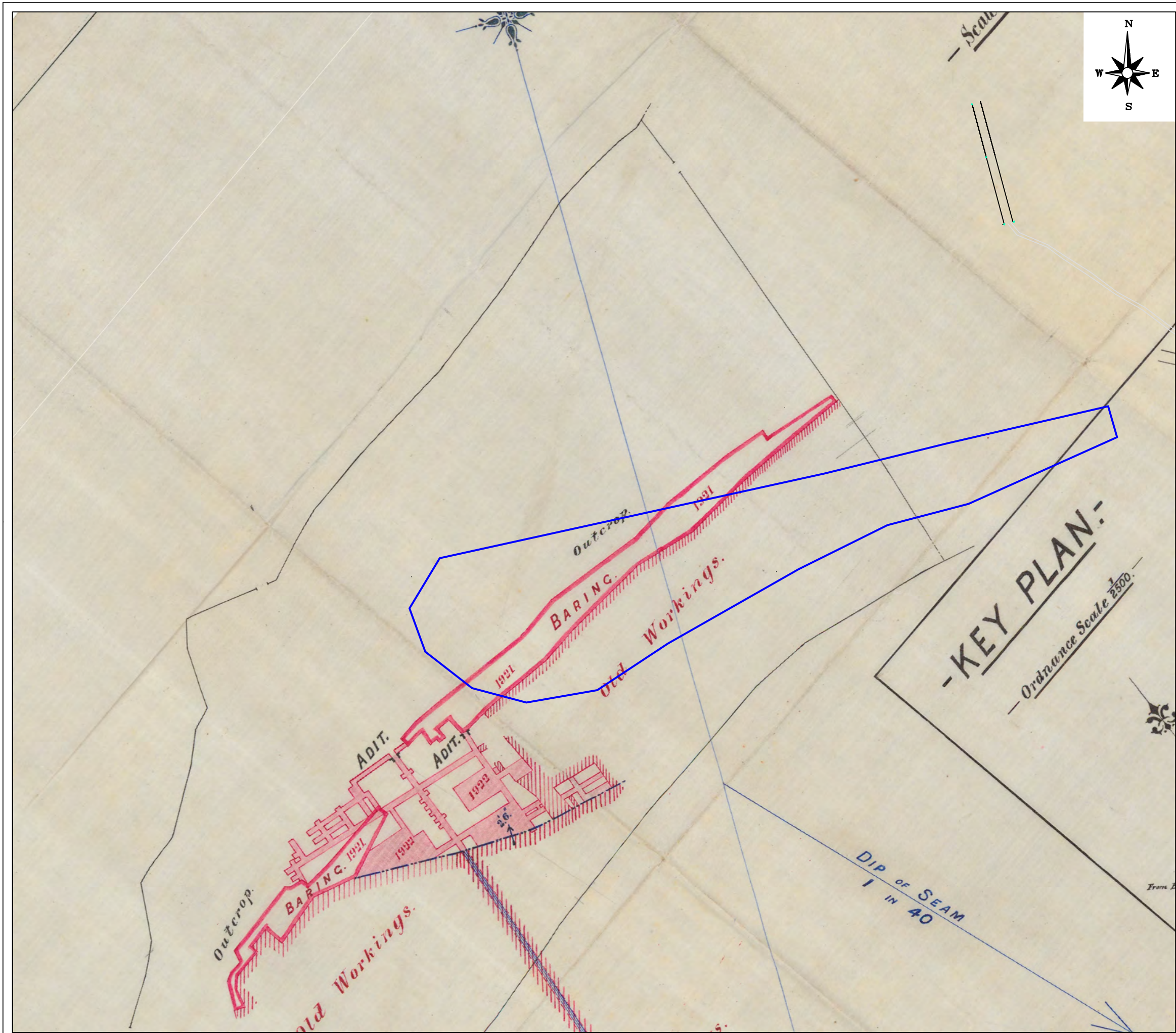
JOB TITLE

VILLA FARM,  
BRADLEY

DRAWING TITLE

ABANDONMENT PLAN 1493 - BETTER  
BED SEAM, HIGHPARK COLLIERY

|         |  |            |             |                                           |          |
|---------|--|------------|-------------|-------------------------------------------|----------|
| DRAWN   |  | DATE       |             | STATUS                                    |          |
| MJT     |  | 04/11/2020 |             | FOR COMMENT <input type="checkbox"/>      |          |
| CHECKED |  | DATE       |             | FOR APPROVAL <input type="checkbox"/>     |          |
| REG     |  | 04/11/2020 |             | DRAFT <input type="checkbox"/>            |          |
|         |  |            |             | FINAL <input checked="" type="checkbox"/> |          |
| SCALE   |  | SHEET      | DRAWING NO. |                                           | REVISION |
| NTS     |  | A3         | 3319/19     |                                           | A        |



NOTES

Reproduced from CA Abandonment Plan  
ref. 7712 for the Better Bed Seam; 1923;  
Bradford Road Colliery

— Section of Seam.—

Shale Roof

COAL 1' 10"

Hard Seat

|      |                                            |          |
|------|--------------------------------------------|----------|
| A    | ADDITION OF NEW PROPOSED DRAINAGE LOCATION | 15 07 21 |
| REV. | DESCRIPTION                                | DATE     |

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www.lithos.co.uk

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CLIENT

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JOB TITLE

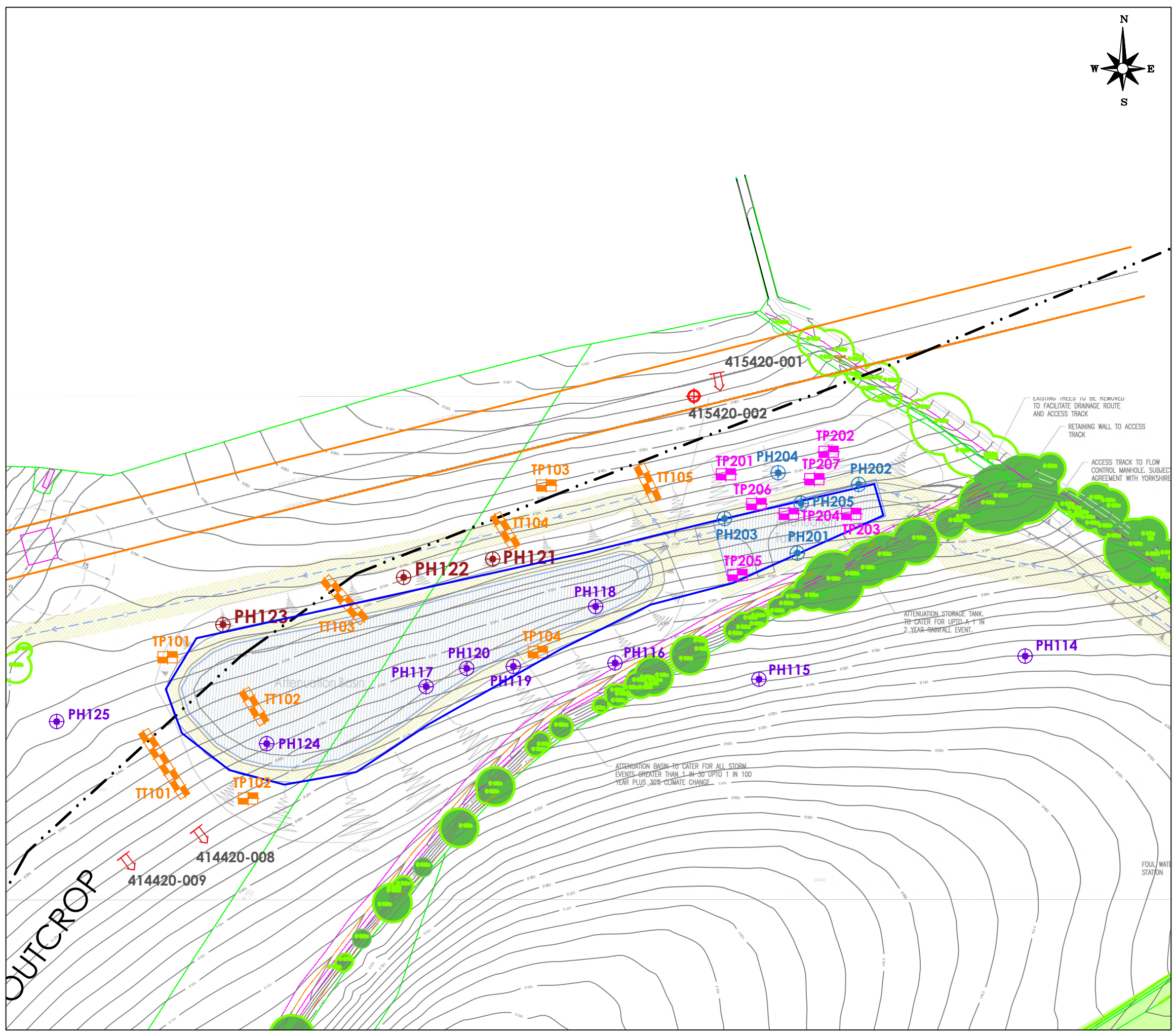
VILLA FARM, BRADLEY

DRAWING TITLE

ABANDONMENT PLAN 7712 - BETTER  
BED SEAM, BRADFORD ROAD  
COLLIERY

|         |     |      |            |              |             |                                     |
|---------|-----|------|------------|--------------|-------------|-------------------------------------|
| DRAWN   | MJT | DATE | 04/11/2020 | STATUS       | FOR COMMENT | <input type="checkbox"/>            |
| CHECKED | REG | DATE | 04/11/2020 | FOR APPROVAL | DRAFT       | <input type="checkbox"/>            |
|         |     |      |            | FINAL        |             | <input checked="" type="checkbox"/> |

|       |     |       |    |             |         |          |   |
|-------|-----|-------|----|-------------|---------|----------|---|
| SCALE | NTS | SHEET | A3 | DRAWING NO. | 3319/20 | REVISION | A |
|-------|-----|-------|----|-------------|---------|----------|---|



**NOTES**  
**JUNE/JULY 2021**  
[Symbol] TRIAL PIT LOCATION  
[Symbol] PROBEHOLE LOCATION  
**SEPTEMBER 2020**  
[Symbol] TRIAL TRENCH/PIT LOCATION  
[Symbol] PROBEHOLE LOCATION (WITH MONITORING WELL)  
[Symbol] PROBEHOLE LOCATION (MINING INVESTIGATION)  
[Symbol] LINE OF ELECTRICITY UTILITY  
[Symbol] CA RECORDED ADIT  
[Symbol] CA RECORDED SHAFT  
[Symbol] APPROXIMATE SITE BOUNDARY (DRAINAGE)  
[Symbol] BETTER BED COAL OUTCROP

NOTE THAT UTILITY LOCATIONS SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES, NOR SHOULD IT BE ASSUMED THAT ALL UTILITIES BENEATH THE SITE ARE SHOWN ON THIS PLAN. THERE MAY BE UTILITIES UNKNOWN TO LITHOS. THIS DRAWING IS NOT AN ALTERNATIVE TO VISUAL INSPECTION, USE OF A CAT DETECTION TOOL AND CAREFUL EXCAVATION.

|      |                                                                    |          |
|------|--------------------------------------------------------------------|----------|
| C    | ADDITIONAL HOLES ADDED IN LOCATION OF UPDATED DRAINAGE LAYOUT (CC) | 22/07/21 |
| B    | EXPLORATORY HOLE LOCATIONS UPDATED FOLLOWING SURVEY (LEW)          | 06/10/20 |
| A    | PROBEHOLE LOCATIONS ADDED (MJT)                                    | 30/09/20 |
| REV. | DESCRIPTION                                                        | DATE     |

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CLIENT

REDROW HOMES

JOB TITLE

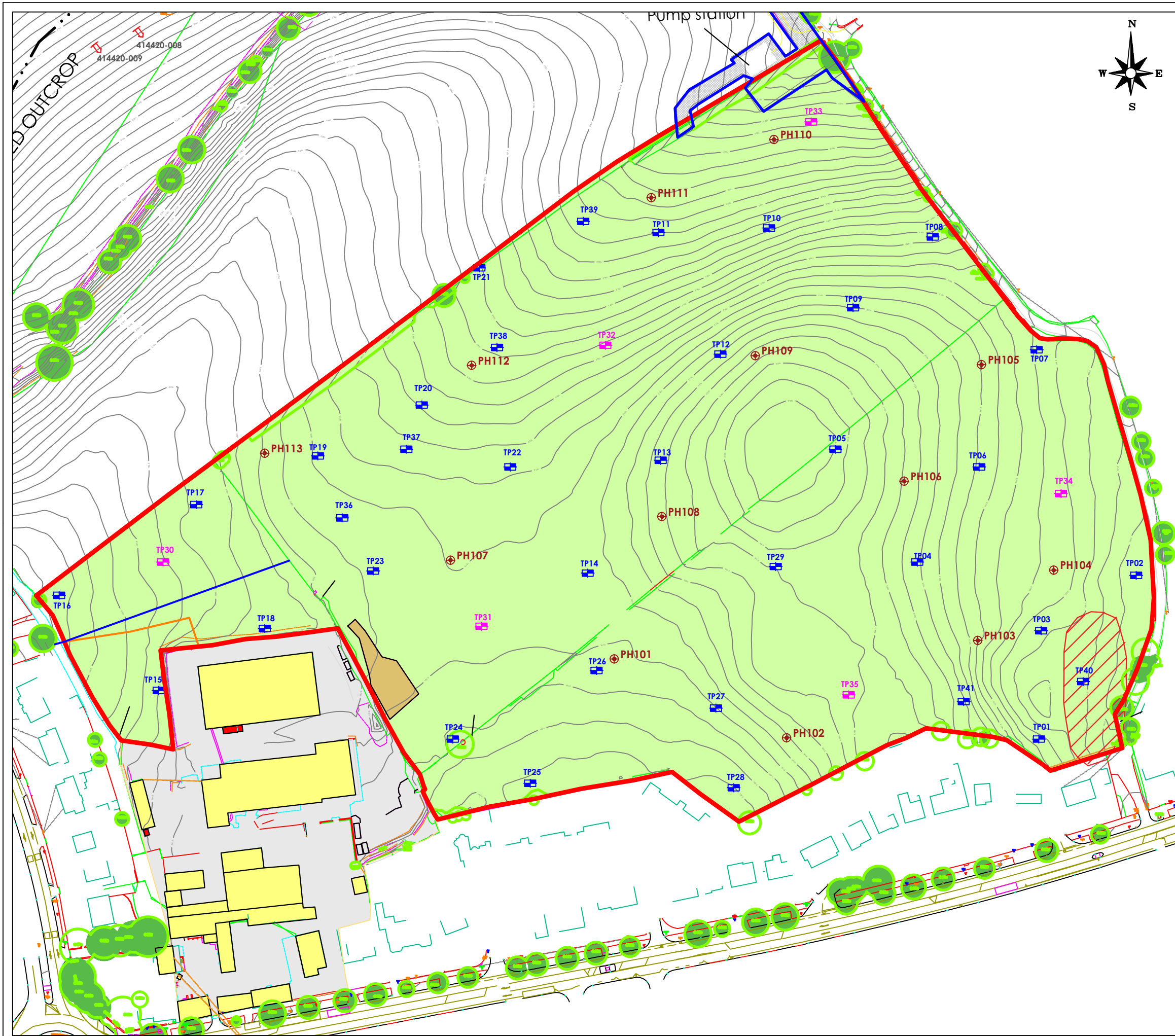
VILLA FARM, BRADLEY

DRAWING TITLE

EXPLORATORY HOLE LOCATIONS (NORTH)

|         |     |      |            |              |             |                                     |
|---------|-----|------|------------|--------------|-------------|-------------------------------------|
| DRAWN   | MJT | DATE | 30/09/2020 | STATUS       | FOR COMMENT | <input type="checkbox"/>            |
| CHECKED | REG | DATE | 30/09/2020 | FOR APPROVAL | DRAFT       | <input type="checkbox"/>            |
|         |     |      |            | FINAL        |             | <input checked="" type="checkbox"/> |

|       |        |       |    |             |        |          |   |
|-------|--------|-------|----|-------------|--------|----------|---|
| SCALE | 1:1000 | SHEET | A3 | DRAWING NO. | 3319/6 | REVISION | C |
|-------|--------|-------|----|-------------|--------|----------|---|



NOTES

- TRIAL PIT LOCATION (FEB 2019)
- SOAKAWAY LOCATION (FEB 2019)
- PROBEHOLE LOCATION (WITH MONITORING WELL)
- LINE OF ELECTRICITY UTILITY
- LINE OF WATER UTILITY

NOTE THAT UTILITY LOCATIONS SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES, NOR SHOULD IT BE ASSUMED THAT ALL UTILITIES BENEATH THE SITE ARE SHOWN ON THIS PLAN. THERE MAY BE UTILITIES UNKNOWN TO LITHOS. THIS DRAWING IS NOT AN ALTERNATIVE TO VISUAL INSPECTION, USE OF A CAT DETECTION TOOL AND CAREFUL EXCAVATION.

|      |                                                                        |          |
|------|------------------------------------------------------------------------|----------|
| B    | PROBEHOLE LOCATIONS AND UTILITY RUNS<br>UPDATED FOLLOWING SURVEY (LEW) | 06/10/20 |
| A    | PROBEHOLE LOCATIONS ADDED (MJT)                                        | 30/09/20 |
| REV. | DESCRIPTION                                                            | DATE     |

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CLIENT

REDROW  
HOMES

JOB TITLE

VILLA FARM,  
BRADLEY

DRAWING TITLE

EXPLORATORY HOLE LOCATIONS  
(SOUTH)

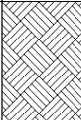
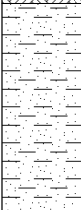
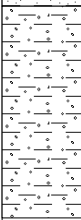
|         |     |      |            |              |             |                                     |
|---------|-----|------|------------|--------------|-------------|-------------------------------------|
| DRAWN   | MJT | DATE | 30/09/2020 | STATUS       | FOR COMMENT | <input type="checkbox"/>            |
| CHECKED | REG | DATE | 30/09/2020 | FOR APPROVAL | DRAFT       | <input type="checkbox"/>            |
|         |     |      |            | FINAL        |             | <input checked="" type="checkbox"/> |

|       |        |       |    |             |        |          |   |
|-------|--------|-------|----|-------------|--------|----------|---|
| SCALE | 1:1500 | SHEET | A3 | DRAWING NO. | 3319/6 | REVISION | B |
|-------|--------|-------|----|-------------|--------|----------|---|



|                                                                                  |  |  |  |                                                                                                                             |  |                                                 |                                              |                    |  |
|----------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------|----------------------------------------------|--------------------|--|
|  |  |  |  | <h1>Trial Pit Log</h1>                                                                                                      |  |                                                 | Trialpit No<br><b>TT101N</b><br>Sheet 1 of 1 |                    |  |
| Project Name: Villa Farm, Bradley                                                |  |  |  | Project No.<br>3319                                                                                                         |  | Co-ords: 414948.60 - 420773.14<br>Level: 143.35 |                                              | Date<br>22/09/2020 |  |
| Location: Huddersfield                                                           |  |  |  | Dimensions (m): <div style="display: inline-block; vertical-align: middle;">           20<br/>           0.7         </div> |  | Scale<br>1:25                                   |                                              | Logged<br>LEW      |  |
| Client: PS & SP Kershaw                                                          |  |  |  | Depth<br>1.80                                                                                                               |  |                                                 |                                              |                    |  |

| Water Strike | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                                                                             | Stratum Description                                                                                                                                                |   |
|--------------|-----------------------------|------|---------|-----------|-----------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|              | Depth                       | Type | Results |           |           |                                                                                    |                                                                                                                                                                    |   |
|              |                             |      |         | 0.40      | 142.95    |   | TOPSOIL: Dark brown slightly sandy CLAY with occasional rootlets.<br>(TOPSOIL)                                                                                     |   |
|              |                             |      |         | 1.10      | 142.25    |   | Stiff orangish brown slightly sandy CLAY.<br>(COHESIVE RESIDUAL SOIL)                                                                                              | 1 |
|              |                             |      |         | 1.80      | 141.55    |  | Stiff grey mottled orangish brown slightly sandy slightly gravelly CLAY. Gravel is subangular fine to medium of mudstone lithorelicts.<br>(COHESIVE RESIDUAL SOIL) |   |
|              |                             |      |         |           |           |                                                                                    | End of pit at 1.80 m                                                                                                                                               | 2 |
|              |                             |      |         |           |           |                                                                                    |                                                                                                                                                                    | 3 |
|              |                             |      |         |           |           |                                                                                    |                                                                                                                                                                    | 4 |
|              |                             |      |         |           |           |                                                                                    |                                                                                                                                                                    | 5 |

|                                                                                                                                                                                                                                                                       |  |                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|
| Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion. |  |  |
| Stability: 1. The sides of the trial pit remained stable during excavation.                                                                                                                                                                                           |  |                                                                                       |

|                                                                                  |  |  |  |                                                                                                                                                                                                                                                                      |  |                                                 |                                              |                    |  |
|----------------------------------------------------------------------------------|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------|----------------------------------------------|--------------------|--|
|  |  |  |  | <h1 style="text-align: center;">Trial Pit Log</h1>                                                                                                                                                                                                                   |  |                                                 | Trialpit No<br><b>TT101S</b><br>Sheet 1 of 1 |                    |  |
| Project Name: Villa Farm, Bradley                                                |  |  |  | Project No.<br>3319                                                                                                                                                                                                                                                  |  | Co-ords: 414959.30 - 420756.48<br>Level: 145.60 |                                              | Date<br>22/09/2020 |  |
| Location: Huddersfield                                                           |  |  |  | Dimensions (m): <div style="display: flex; align-items: center; margin-left: 10px;"> <div style="border: 1px solid black; padding: 2px 10px;">20</div> <div style="margin: 0 5px;">0.7</div> <div style="border: 1px solid black; padding: 2px 10px;"> </div> </div> |  | Scale<br>1:25                                   |                                              | Logged<br>LEW      |  |
| Client: PS & SP Kershaw                                                          |  |  |  | Depth<br>2.50                                                                                                                                                                                                                                                        |  |                                                 |                                              |                    |  |

| Water Strike | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend | Stratum Description                                                                                                                                        |   |
|--------------|-----------------------------|------|---------|-----------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|              | Depth                       | Type | Results |           |           |        |                                                                                                                                                            |   |
|              |                             |      |         | 0.40      | 145.20    |        | TOPSOIL: Dark brown slightly sandy CLAY with occasional rootlets.<br>(TOPSOIL)                                                                             |   |
|              |                             |      |         | 1.00      | 144.60    |        | MADE GROUND: Orangish brown and grey sandy gravelly CLAY. Gravel is angular to subangular fine to coarse of mudstone and coal.<br>(BACKFILL MATERIAL)      | 1 |
|              |                             |      |         | 2.50      | 143.10    |        | MADE GROUND: Grey sandy gravelly CLAY with low cobble content. Gravel is angular to subangular fine to coarse of mudstone and coal.<br>(BACKFILL MATERIAL) | 2 |
|              |                             |      |         |           |           |        | End of pit at 2.50 m                                                                                                                                       | 3 |
|              |                             |      |         |           |           |        |                                                                                                                                                            | 4 |
|              |                             |      |         |           |           |        |                                                                                                                                                            | 5 |

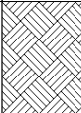
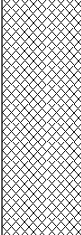
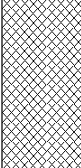
Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.



|                                                                                  |  |  |  |                                                                                                                                                                                                                                                                                                                                                |  |                                                 |                                              |                    |  |
|----------------------------------------------------------------------------------|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------|----------------------------------------------|--------------------|--|
|  |  |  |  | <h1 style="text-align: center;">Trial Pit Log</h1>                                                                                                                                                                                                                                                                                             |  |                                                 | Trialpit No<br><b>TT102C</b><br>Sheet 1 of 1 |                    |  |
| Project Name: Villa Farm, Bradley                                                |  |  |  | Project No.<br>3319                                                                                                                                                                                                                                                                                                                            |  | Co-ords: 414978.65 - 420780.26<br>Level: 144.10 |                                              | Date<br>22/09/2020 |  |
| Location: Huddersfield                                                           |  |  |  | Dimensions (m): <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="margin-right: 10px;">Depth 2.10</div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <div style="display: flex; justify-content: space-between; width: 100%;"> <span>0.7</span> <span>9.5</span> </div> </div> </div> |  | Scale<br>1:25                                   |                                              | Logged<br>LEW      |  |
| Client: PS & SP Kershaw                                                          |  |  |  |                                                                                                                                                                                                                                                                                                                                                |  |                                                 |                                              |                    |  |

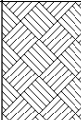
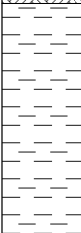
| Water Strike         | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                                                                              | Stratum Description                                                                                                                                                       |   |
|----------------------|-----------------------------|------|---------|-----------|-----------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|                      | Depth                       | Type | Results |           |           |                                                                                     |                                                                                                                                                                           |   |
|                      |                             |      |         | 0.40      | 143.70    |    | TOPSOIL: Dark brown slightly sandy CLAY with occasional rootlets. (TOPSOIL)                                                                                               |   |
|                      |                             |      |         | 1.20      | 142.90    |    | MADE GROUND: orangish brown and dark grey slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse of mudstone and coal. (BACKFILL MATERIAL) | 1 |
|                      |                             |      |         | 1.80      | 142.30    |   | MADE GROUND: Greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular fine to medium of mudstone. (BACKFILL MATERIAL)                                    |   |
|                      |                             |      |         | 1.90      | 142.20    |  | Black COAL. Recovered as slightly clayey sandy angular to subangular fine to coarse gravel. (BETTER BED COAL)                                                             | 2 |
|                      |                             |      |         | 2.10      | 142.00    |  | Firm greyish brown slightly sandy gravelly CLAY. Gravel is angular to subangular fine to medium of mudstone. (COHESIVE RESIDUAL SOIL)                                     |   |
| End of pit at 2.10 m |                             |      |         |           |           |                                                                                     |                                                                                                                                                                           | 5 |

|            |                                                                                                                                                                                                                                                              |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Remarks:   | 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion. |
| Stability: | 1. The sides of the trial pit remained stable during excavation.                                                                                                                                                                                             |



|                                                                                  |  |  |  |                                                                                                                                                                                                                                                                                                                                                |  |                                                 |                                              |                    |  |
|----------------------------------------------------------------------------------|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------|----------------------------------------------|--------------------|--|
|  |  |  |  | <h1 style="text-align: center;">Trial Pit Log</h1>                                                                                                                                                                                                                                                                                             |  |                                                 | Trialpit No<br><b>TT102N</b><br>Sheet 1 of 1 |                    |  |
| Project Name: Villa Farm, Bradley                                                |  |  |  | Project No.<br>3319                                                                                                                                                                                                                                                                                                                            |  | Co-ords: 414974.91 - 420783.94<br>Level: 143.45 |                                              | Date<br>22/09/2020 |  |
| Location: Huddersfield                                                           |  |  |  | Dimensions (m): <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="margin-right: 10px;">Depth 1.40</div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <div style="display: flex; justify-content: space-between; width: 100%;"> <span>0.7</span> <span>9.5</span> </div> </div> </div> |  | Scale<br>1:25                                   |                                              | Logged<br>LEW      |  |
| Client: PS & SP Kershaw                                                          |  |  |  |                                                                                                                                                                                                                                                                                                                                                |  |                                                 |                                              |                    |  |

| Water Strike | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                                                                            | Stratum Description                                                                                     |   |
|--------------|-----------------------------|------|---------|-----------|-----------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---|
|              | Depth                       | Type | Results |           |           |                                                                                   |                                                                                                         |   |
|              |                             |      |         | 0.40      | 143.05    |  | TOPSOIL: Dark brown slightly sandy CLAY with occasional rootlets.<br>(TOPSOIL)                          |   |
|              |                             |      |         |           |           |  | Stiff orangish brown mottled light grey CLAY.<br>(COHESIVE RESIDUAL SOIL)                               | 1 |
|              | 1.30                        | T    |         | 1.20      | 142.25    |  | Black COAL. Recovered as clayey sandy angular to subangular fine to coarse gravel.<br>(BETTER BED COAL) |   |
|              |                             |      |         | 1.40      | 142.05    |                                                                                   | End of pit at 1.40 m                                                                                    |   |
|              |                             |      |         |           |           |                                                                                   |                                                                                                         | 2 |
|              |                             |      |         |           |           |                                                                                   |                                                                                                         | 3 |
|              |                             |      |         |           |           |                                                                                   |                                                                                                         | 4 |
|              |                             |      |         |           |           |                                                                                   |                                                                                                         | 5 |

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.



|                                                                                  |  |  |  |                                                                                                                                                                                                                                                                                              |  |                                                 |                                              |                    |  |
|----------------------------------------------------------------------------------|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------|----------------------------------------------|--------------------|--|
|  |  |  |  | <h1>Trial Pit Log</h1>                                                                                                                                                                                                                                                                       |  |                                                 | Trialpit No<br><b>TT102S</b><br>Sheet 1 of 1 |                    |  |
| Project Name: Villa Farm, Bradley                                                |  |  |  | Project No.<br>3319                                                                                                                                                                                                                                                                          |  | Co-ords: 414979.78 - 420776.10<br>Level: 144.65 |                                              | Date<br>22/09/2020 |  |
| Location: Huddersfield                                                           |  |  |  | Dimensions (m): <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">Depth 2.50</div> <div style="border: 1px solid black; padding: 5px;"> <div style="display: flex; justify-content: space-between;"> <span>0.7</span> <span>9.5</span> </div> </div> </div> |  | Scale<br>1:25                                   |                                              | Logged<br>LEW      |  |
| Client: PS & SP Kershaw                                                          |  |  |  |                                                                                                                                                                                                                                                                                              |  |                                                 |                                              |                    |  |

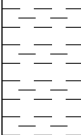
| Water Strike | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend | Stratum Description                                                                                                                                                                         |   |
|--------------|-----------------------------|------|---------|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|              | Depth                       | Type | Results |           |           |        |                                                                                                                                                                                             |   |
|              |                             |      |         | 0.40      | 144.25    |        | TOPSOIL: Dark brown slightly sandy CLAY with occasional rootlets.<br>(TOPSOIL)                                                                                                              |   |
|              |                             |      |         |           |           |        | MADE GROUND: Dark grey and orangish brown clayey sandy angular to subangular fine to coarse GRAVEL of predominantly mudstone and coal with rare sandstone and cloth.<br>(BACKFILL MATERIAL) |   |
|              |                             |      |         |           |           |        | <i>Major collapse of trial pit walls from 0.4m to 1.5m depth.</i>                                                                                                                           | 1 |
|              |                             |      |         |           |           |        |                                                                                                                                                                                             | 2 |
|              |                             |      |         | 2.50      | 142.15    |        | End of pit at 2.50 m                                                                                                                                                                        | 3 |
|              |                             |      |         |           |           |        |                                                                                                                                                                                             | 4 |
|              |                             |      |         |           |           |        |                                                                                                                                                                                             | 5 |

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit spalled between 0.4m and 1.5m depth during excavation leading to collapse.



|                                                                                  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                 |                                              |                    |  |
|----------------------------------------------------------------------------------|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------|----------------------------------------------|--------------------|--|
|  |  |  |  | <h1 style="text-align: center;">Trial Pit Log</h1>                                                                                                                                                                                                                                                                                                                                                                   |  |                                                 | Trialpit No<br><b>TT103C</b><br>Sheet 1 of 1 |                    |  |
| Project Name: Villa Farm, Bradley                                                |  |  |  | Project No.<br>3319                                                                                                                                                                                                                                                                                                                                                                                                  |  | Co-ords: 415003.85 - 420807.09<br>Level: 141.80 |                                              | Date<br>22/09/2020 |  |
| Location: Huddersfield                                                           |  |  |  | Dimensions (m): <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="margin-right: 10px;">Depth 1.50</div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <div style="width: 100px; height: 40px; margin: 0 auto;"></div> <div style="font-size: 0.7em; margin-top: 5px;">0.7</div> </div> <div style="margin-left: 10px; text-align: right;">16.5</div> </div> |  | Scale<br>1:25                                   |                                              | Logged<br>LEW      |  |
| Client: PS & SP Kershaw                                                          |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                 |                                              |                    |  |

| Water Strike | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                                                                             | Stratum Description                                                                                                                               |   |
|--------------|-----------------------------|------|---------|-----------|-----------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---|
|              | Depth                       | Type | Results |           |           |                                                                                    |                                                                                                                                                   |   |
|              |                             |      |         | 0.30      | 141.50    |   | TOPSOIL: Dark brown slightly sandy CLAY with occasional rootlets. (TOPSOIL)                                                                       |   |
|              |                             |      |         | 0.50      | 141.30    |   | MADE GROUND: Dark grey sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse of coal. (REWORKED NATURAL GROUND)                     |   |
|              |                             |      |         |           |           |   | Firm orangish brown CLAY. (COHESIVE RESIDUAL SOIL)                                                                                                |   |
|              | 1.20                        | T    |         | 1.10      | 140.70    |   | Black COAL. Recovered as clayey sandy angular to subangular fine to coarse gravel. (BETTER BED COAL)                                              | 1 |
|              |                             |      |         | 1.30      | 140.50    |   | Stiff greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular fine to medium of mudstone lithorelicts. (COHESIVE RESIDUAL SOIL) |   |
|              |                             |      |         | 1.50      | 140.30    |  | End of pit at 1.50 m                                                                                                                              |   |
|              |                             |      |         |           |           |                                                                                    |                                                                                                                                                   | 2 |
|              |                             |      |         |           |           |                                                                                    |                                                                                                                                                   | 3 |
|              |                             |      |         |           |           |                                                                                    |                                                                                                                                                   | 4 |
|              |                             |      |         |           |           |                                                                                    |                                                                                                                                                   | 5 |

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.



|                                                                                  |  |  |  |                                                    |  |                                                                                                    |                                              |                    |  |
|----------------------------------------------------------------------------------|--|--|--|----------------------------------------------------|--|----------------------------------------------------------------------------------------------------|----------------------------------------------|--------------------|--|
|  |  |  |  | <h1 style="text-align: center;">Trial Pit Log</h1> |  |                                                                                                    | Trialpit No<br><b>TT103N</b><br>Sheet 1 of 1 |                    |  |
| Project Name: Villa Farm, Bradley                                                |  |  |  | Project No.<br>3319                                |  | Co-ords: 414995.99 - 420812.88<br>Level: 140.85                                                    |                                              | Date<br>22/09/2020 |  |
| Location: Huddersfield                                                           |  |  |  | Dimensions (m):                                    |  | 16.5<br><div style="border: 1px solid black; width: 100px; height: 30px; margin: 5px auto;"></div> |                                              | Scale<br>1:25      |  |
| Client: PS & SP Kershaw                                                          |  |  |  | Depth<br>1.20                                      |  | 0.7<br><div style="border: 1px solid black; width: 100px; height: 30px; margin: 5px auto;"></div>  |                                              | Logged<br>LEW      |  |

| Water Strike | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                                                                            | Stratum Description                                                                                                                               |   |
|--------------|-----------------------------|------|---------|-----------|-----------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---|
|              | Depth                       | Type | Results |           |           |                                                                                   |                                                                                                                                                   |   |
|              |                             |      |         | 0.30      | 140.55    |  | TOPSOIL: Dark brown slightly sandy CLAY with occasional rootlets. (TOPSOIL)                                                                       | 1 |
|              |                             |      |         | 0.50      | 140.35    |  | MADE GROUND: Dark grey sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse of coal. (REWORKED NATURAL GROUND)                     |   |
|              |                             |      |         |           |           |  | Firm orangish brown CLAY. (COHESIVE RESIDUAL SOIL)                                                                                                |   |
|              |                             |      |         | 1.20      | 139.65    |  | Stiff orangish brown mottled grey slightly sandy CLAY. (COHESIVE RESIDUAL SOIL)                                                                   |   |
|              |                             |      |         | 1.70      | 139.15    |  | Stiff greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular fine to medium of mudstone lithorelicts. (COHESIVE RESIDUAL SOIL) |   |
|              |                             |      |         | 1.80      | 139.05    |  | End of pit at 1.20 m                                                                                                                              | 2 |
|              |                             |      |         |           |           |                                                                                   |                                                                                                                                                   | 3 |
|              |                             |      |         |           |           |                                                                                   |                                                                                                                                                   | 4 |
|              |                             |      |         |           |           |                                                                                   |                                                                                                                                                   | 5 |

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.



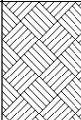
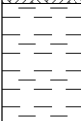
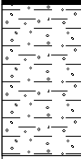
|                                                                                  |  |  |  |                                                                                                                                                                                                                                                                                                                                                  |  |                                                 |                                              |                    |  |
|----------------------------------------------------------------------------------|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------|----------------------------------------------|--------------------|--|
|  |  |  |  | <h1 style="text-align: center;">Trial Pit Log</h1>                                                                                                                                                                                                                                                                                               |  |                                                 | Trialpit No<br><b>TT103S</b><br>Sheet 1 of 1 |                    |  |
| Project Name: Villa Farm, Bradley                                                |  |  |  | Project No.<br>3319                                                                                                                                                                                                                                                                                                                              |  | Co-ords: 415007.03 - 420801.00<br>Level: 142.70 |                                              | Date<br>22/09/2020 |  |
| Location: Huddersfield                                                           |  |  |  | Dimensions (m): <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="margin-right: 10px;">Depth 2.00</div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <div style="display: flex; justify-content: space-between; width: 100%;"> <span>0.7</span> <span>16.5</span> </div> </div> </div> |  | Scale<br>1:25                                   |                                              | Logged<br>LEW      |  |
| Client: PS & SP Kershaw                                                          |  |  |  |                                                                                                                                                                                                                                                                                                                                                  |  |                                                 |                                              |                    |  |

| Water Strike | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                                                                              | Stratum Description                                                                                                                                              |   |
|--------------|-----------------------------|------|---------|-----------|-----------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|              | Depth                       | Type | Results |           |           |                                                                                     |                                                                                                                                                                  |   |
|              |                             |      |         | 0.30      | 142.40    |    | TOPSOIL: Dark brown slightly sandy CLAY with occasional rootlets. (TOPSOIL)                                                                                      | 1 |
|              |                             |      |         | 0.50      | 142.20    |    | MADE GROUND: Dark grey sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse of coal. (REWORKED NATURAL GROUND)                                    |   |
|              |                             |      |         |           |           |    | MADE GROUND: Brown and dark grey slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to medium of mudstone and coal. (BACKFILL MATERIAL) |   |
|              |                             |      |         | 1.40      | 141.30    |    | Black COAL. Recovered as clayey sandy angular to subangular fine to coarse gravel. (BETTER BED COAL)                                                             | 2 |
|              |                             |      |         | 1.80      | 140.90    |  | Greyish brown slightly sandy angular to subangular fine to medium GRAVEL of mudstone. (GRANULAR RESIDUAL SOIL)                                                   |   |
|              |                             |      |         | 2.00      | 140.70    |                                                                                     | End of pit at 2.00 m                                                                                                                                             |   |
|              |                             |      |         |           |           |                                                                                     |                                                                                                                                                                  | 3 |
|              |                             |      |         |           |           |                                                                                     |                                                                                                                                                                  | 4 |
|              |                             |      |         |           |           |                                                                                     |                                                                                                                                                                  | 5 |

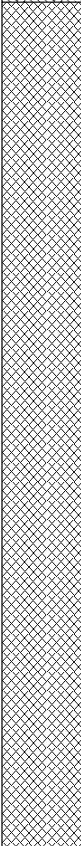
|                                                                                                                                                                                                                                                                       |  |                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|
| Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion. |  |  |
| Stability: 1. The sides of the trial pit remained stable during excavation.                                                                                                                                                                                           |  |                                                                                       |

|                                                                                                                                                                                       |                             |      |         | <h1>Trial Pit Log</h1> |              |                                                                                                                                                                                                                                                                                                                           | Trialpit No<br><b>TT104N</b><br>Sheet 1 of 1                                                                                           |                    |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------|---------|------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------|--|
| Project Name: Villa Farm, Bradley                                                                                                                                                                                                                                     |                             |      |         | Project No.<br>3319    |              | Co-ords: 415040.44 - 420829.84<br>Level: 140.20                                                                                                                                                                                                                                                                           |                                                                                                                                        | Date<br>22/09/2020 |  |
| Location: Huddersfield                                                                                                                                                                                                                                                |                             |      |         | Dimensions (m):        |              | 8.7<br><div style="border: 1px solid black; width: 100px; height: 30px; position: relative;"> <div style="position: absolute; left: 0; top: 0; width: 100%; height: 100%; background: linear-gradient(to right, transparent 49%, black 49% 51%, black 51% 53%, transparent 53%); background-size: 4px 4px;"></div> </div> |                                                                                                                                        | Scale<br>1:25      |  |
| Client: PS & SP Kershaw                                                                                                                                                                                                                                               |                             |      |         | Depth<br>1.70          |              | 0.7                                                                                                                                                                                                                                                                                                                       |                                                                                                                                        | Logged<br>LEW      |  |
| Water<br>Strike                                                                                                                                                                                                                                                       | Samples and In Situ Testing |      |         | Depth<br>(m)           | Level<br>(m) | Legend                                                                                                                                                                                                                                                                                                                    | Stratum Description                                                                                                                    |                    |  |
|                                                                                                                                                                                                                                                                       | Depth                       | Type | Results |                        |              |                                                                                                                                                                                                                                                                                                                           |                                                                                                                                        |                    |  |
|                                                                                                                                                                                                                                                                       |                             |      |         | 0.40                   | 139.80       |                                                                                                                                                                                                                                          | TOPSOIL: Dark brown slightly sandy CLAY with occasional rootlets. (TOPSOIL)                                                            |                    |  |
|                                                                                                                                                                                                                                                                       |                             |      |         |                        |              |                                                                                                                                                                                                                                          | Firm orangish brown mottled light grey CLAY. (COHESIVE RESIDUAL SOIL)                                                                  |                    |  |
|                                                                                                                                                                                                                                                                       |                             |      |         | 0.90                   | 139.30       |                                                                                                                                                                                                                                          | At 0.8m, terracotta land drain encountered.                                                                                            |                    |  |
|                                                                                                                                                                                                                                                                       |                             |      |         | 1.20                   | 139.00       |                                                                                                                                                                                                                                          | Black COAL. Recovered as very clayey sandy angular to subangular fine to coarse gravel. (BETTER BED COAL)                              |                    |  |
|                                                                                                                                                                                                                                                                       |                             |      |         | 1.70                   | 138.50       |                                                                                                                                                                                                                                          | Stiff greyish brown slightly sandy gravelly CLAY. Gravel is angular to subangular fine to medium of mudstone. (COHESIVE RESIDUAL SOIL) |                    |  |
|                                                                                                                                                                                                                                                                       |                             |      |         |                        |              | End of pit at 1.70 m                                                                                                                                                                                                                                                                                                      |                                                                                                                                        |                    |  |
| <div style="display: flex; justify-content: space-between;"> <span>1</span> <span>2</span> <span>3</span> <span>4</span> <span>5</span> </div>                                                                                                                        |                             |      |         |                        |              |                                                                                                                                                                                                                                                                                                                           |                                                                                                                                        |                    |  |
| Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion. |                             |      |         |                        |              |                                                                                                                                                                                                                                                                                                                           |                                                                                                                                        |                    |  |
| Stability: 1. The sides of the trial pit remained stable during excavation.                                                                                                                                                                                           |                             |      |         |                        |              |                                                                                                                                                                                                                                                                                                                           |                                                                                                                                        |                    |  |



|                                                                                  |  |  |  |                                                                                                                                                                                                                                                                                                                                                |  |                                                 |                                              |                    |  |
|----------------------------------------------------------------------------------|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------|----------------------------------------------|--------------------|--|
|  |  |  |  | <h1 style="text-align: center;">Trial Pit Log</h1>                                                                                                                                                                                                                                                                                             |  |                                                 | Trialpit No<br><b>TT104S</b><br>Sheet 1 of 1 |                    |  |
| Project Name: Villa Farm, Bradley                                                |  |  |  | Project No.<br>3319                                                                                                                                                                                                                                                                                                                            |  | Co-ords: 415044.67 - 420822.64<br>Level: 141.35 |                                              | Date<br>22/09/2020 |  |
| Location: Huddersfield                                                           |  |  |  | Dimensions (m): <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="margin-right: 10px;">Depth 3.30</div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <div style="display: flex; justify-content: space-between; width: 100%;"> <span>0.7</span> <span>8.7</span> </div> </div> </div> |  | Scale<br>1:25                                   |                                              | Logged<br>LEW      |  |
| Client: PS & SP Kershaw                                                          |  |  |  |                                                                                                                                                                                                                                                                                                                                                |  |                                                 |                                              |                    |  |

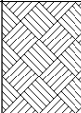
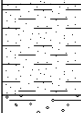
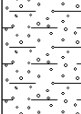
| Water Strike | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                                                                              | Stratum Description                                                                                                                                                                                            |   |
|--------------|-----------------------------|------|---------|-----------|-----------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|              | Depth                       | Type | Results |           |           |                                                                                     |                                                                                                                                                                                                                |   |
|              |                             |      |         | 0.30      | 141.05    |    | TOPSOIL: Dark brown slightly sandy CLAY with occasional rootlets.<br>(TOPSOIL)                                                                                                                                 |   |
|              |                             |      |         |           |           |   | MADE GROUND: Dark grey clayey sandy angular to subangular fine to coarse GRAVEL of predominantly mudstone and coal with rare plastic, timber and glass. Low cobble content of mudstone.<br>(BACKFILL MATERIAL) |   |
|              |                             |      |         |           |           |                                                                                     | <i>Major collapse of trial pit walls from 0.0m to 2.2m depth.</i>                                                                                                                                              | 1 |
|              |                             |      |         | 3.10      | 138.25    |  | Firm orangish brown CLAY.<br>(COHESIVE RESIDUAL SOIL)                                                                                                                                                          | 3 |
|              |                             |      |         | 3.30      | 138.05    |  | End of pit at 3.30 m                                                                                                                                                                                           | 4 |
|              |                             |      |         |           |           |                                                                                     |                                                                                                                                                                                                                | 5 |

|                                                                                                                                                                                                                                                                       |  |                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|
| Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion. |  |  |
| Stability: 1. The sides of the trial pit collapsed between 0.0m and 2.2m depth during excavation.                                                                                                                                                                     |  |                                                                                       |



|                                                                                  |  |  |  |                                                                                                                                                                                                                 |  |                                                 |                                             |                    |  |
|----------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------|---------------------------------------------|--------------------|--|
|  |  |  |  | <h1 style="text-align: center;">Trial Pit Log</h1>                                                                                                                                                              |  |                                                 | Trialpit No<br><b>TP101</b><br>Sheet 1 of 1 |                    |  |
| Project Name: Villa Farm, Bradley                                                |  |  |  | Project No.<br>3319                                                                                                                                                                                             |  | Co-ords: 414955.52 - 420792.83<br>Level: 142.00 |                                             | Date<br>22/09/2020 |  |
| Location: Huddersfield                                                           |  |  |  | Dimensions (m): <div style="display: flex; align-items: center; gap: 10px;"> <div style="border: 1px solid black; padding: 2px;">2.7</div> <div style="border: 1px solid black; padding: 2px;">0.7</div> </div> |  | Scale<br>1:25                                   |                                             | Logged<br>LEW      |  |
| Client: PS & SP Kershaw                                                          |  |  |  | Depth<br>2.50                                                                                                                                                                                                   |  |                                                 |                                             |                    |  |

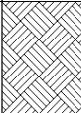
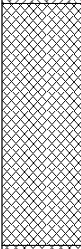
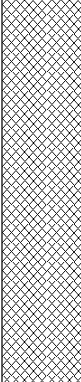
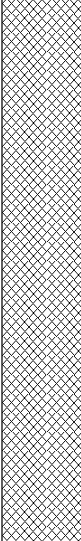
| Water Strike | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                                                                                         | Stratum Description                                                                                                                                                                               |   |
|--------------|-----------------------------|------|---------|-----------|-----------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|              | Depth                       | Type | Results |           |           |                                                                                                |                                                                                                                                                                                                   |   |
|              |                             |      |         | 0.40      | 141.60    |               | TOPSOIL: Dark brown slightly sandy CLAY with occasional rootlets.<br>(TOPSOIL)                                                                                                                    |   |
|              |                             |      |         |           |           |               | Firm orangish brown mottled light grey slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse of sandstone.<br>(COHESIVE RESIDUAL SOIL)                            |   |
|              |                             |      |         |           |           | <i>At 0.8m, terracotta land drain encountered.<br/>           From 0.8m, clay is gravelly.</i> |                                                                                                                                                                                                   | 1 |
|              |                             |      |         | 1.20      | 140.80    |               | Stiff grey slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to medium of mudstone.<br>(COHESIVE RESIDUAL SOIL)                                                         |   |
|              |                             |      |         | 1.50      | 140.50    |              | Dark grey clayey sandy angular tabular fine to coarse GRAVEL of carbonaceous mudstone.<br>(GRANULAR RESIDUAL SOIL)                                                                                | 2 |
|              |                             |      |         | 2.30      | 139.70    |             | Moderately weak dark grey thin laminated carbonaceous MUDSTONE with occasional ironstone nodules.<br>Recovered as slightly clayey sandy angular tabular fine to coarse gravel.<br>(COAL MEASURES) |   |
|              |                             |      |         | 2.50      | 139.50    |             | <i>Unable to excavate beyond 2.5m depth.<br/>           End of pit at 2.50 m</i>                                                                                                                  | 3 |
|              |                             |      |         |           |           |                                                                                                |                                                                                                                                                                                                   | 4 |
|              |                             |      |         |           |           |                                                                                                |                                                                                                                                                                                                   | 5 |

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.



|                                                                                  |  |  |  |                                                                                                                                                                                                                 |  |                                                 |                                             |                    |  |
|----------------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------|---------------------------------------------|--------------------|--|
|  |  |  |  | <h1>Trial Pit Log</h1>                                                                                                                                                                                          |  |                                                 | Trialpit No<br><b>TP102</b><br>Sheet 1 of 1 |                    |  |
| Project Name: Villa Farm, Bradley                                                |  |  |  | Project No.<br>3319                                                                                                                                                                                             |  | Co-ords: 414976.55 - 420755.95<br>Level: 146.75 |                                             | Date<br>22/09/2020 |  |
| Location: Huddersfield                                                           |  |  |  | Dimensions (m): <div style="display: flex; align-items: center; gap: 10px;"> <div style="border: 1px solid black; padding: 2px;">3.5</div> <div style="border: 1px solid black; padding: 2px;">0.7</div> </div> |  | Scale<br>1:25                                   |                                             | Logged<br>LEW      |  |
| Client: PS & SP Kershaw                                                          |  |  |  | Depth<br>4.30                                                                                                                                                                                                   |  |                                                 |                                             |                    |  |

| Water Strike | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                                                                              | Stratum Description                                                                                                                                                                                                         |   |
|--------------|-----------------------------|------|---------|-----------|-----------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|              | Depth                       | Type | Results |           |           |                                                                                     |                                                                                                                                                                                                                             |   |
|              |                             |      |         | 0.40      | 146.35    |    | TOPSOIL: Dark brown slightly sandy CLAY with occasional rootlets.<br>(TOPSOIL)                                                                                                                                              |   |
|              |                             |      |         | 1.20      | 145.55    |    | MADE GROUND: Grey clayey sandy angular to subangular tabular fine to coarse GRAVEL of mudstone. Medium cobble content of mudstone.<br>(BACKFILL MATERIAL)                                                                   | 1 |
|              |                             |      |         |           |           |   | MADE GROUND: Dark grey clayey sandy angular to subangular fine to coarse GRAVEL of mudstone, coal and ironstone.<br>(BACKFILL MATERIAL)<br><i>From 1.3m, major spalling of trial pit walls leading to partial collapse.</i> | 2 |
|              |                             |      |         |           |           |  | <i>At 2.5m, 0.4m wide sandstone boulder.</i>                                                                                                                                                                                | 3 |
|              |                             |      |         | 4.30      | 142.45    |  | End of pit at 4.30 m                                                                                                                                                                                                        | 4 |
|              |                             |      |         |           |           |                                                                                     |                                                                                                                                                                                                                             | 5 |

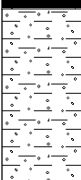
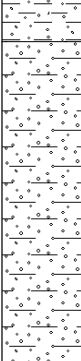
Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit spalled between 1.3m and 4.3m depth during excavation leading to collapse.



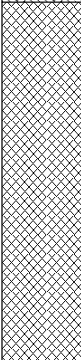
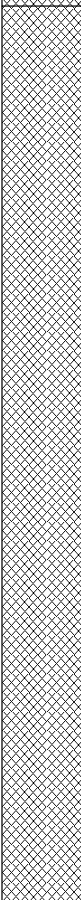
|                                                                                  |  |  |  |                                                                                                                                                                                                                                                                                            |  |                                                 |                                             |                    |  |
|----------------------------------------------------------------------------------|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------|---------------------------------------------|--------------------|--|
|  |  |  |  | <h1>Trial Pit Log</h1>                                                                                                                                                                                                                                                                     |  |                                                 | Trialpit No<br><b>TP103</b><br>Sheet 1 of 1 |                    |  |
| Project Name: Villa Farm, Bradley                                                |  |  |  | Project No.<br>3319                                                                                                                                                                                                                                                                        |  | Co-ords: 415054.45 - 420837.65<br>Level: 139.65 |                                             | Date<br>22/09/2020 |  |
| Location: Huddersfield                                                           |  |  |  | Dimensions (m): <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">Depth 3.10</div> <div style="border: 1px solid black; padding: 5px;"> <div style="display: flex; justify-content: space-between;"> <span>0.7</span> <span>3</span> </div> </div> </div> |  | Scale<br>1:25                                   |                                             | Logged<br>LEW      |  |
| Client: PS & SP Kershaw                                                          |  |  |  |                                                                                                                                                                                                                                                                                            |  |                                                 |                                             |                    |  |

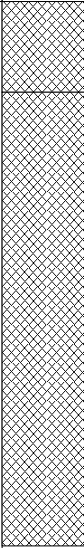
| Water Strike | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                                                                              | Stratum Description                                                                                                                                                                                         |   |
|--------------|-----------------------------|------|---------|-----------|-----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|              | Depth                       | Type | Results |           |           |                                                                                     |                                                                                                                                                                                                             |   |
|              |                             |      |         | 0.30      | 139.35    |    | TOPSOIL: Dark brown slightly sandy CLAY with occasional rootlets. (TOPSOIL)                                                                                                                                 |   |
|              |                             |      |         | 0.60      | 139.05    |    | Firm orangish brown slightly sandy CLAY. (COHESIVE RESIDUAL SOIL)                                                                                                                                           |   |
|              |                             |      |         | 1.00      | 138.65    |    | Black COAL. Recovered as sandy gravelly clay. Gravel is subangular fine to medium. (BETTER BED COAL)<br><i>At 0.8m, terracotta land drain encountered.</i>                                                  | 1 |
|              |                             |      |         | 1.70      | 137.95    |    | Stiff greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of mudstone. (COHESIVE RESIDUAL SOIL)<br><br><i>At 1.6m, 10cm thick bed of weathered coal.</i> | 2 |
|              |                             |      |         | 2.80      | 136.85    |   | Greyish brown clayey sandy angular to subangular fine to coarse GRAVEL of mudstone. (GRANULAR RESIDUAL SOIL)                                                                                                |   |
|              |                             |      |         | 3.10      | 136.55    |  | Weak grey thinly laminated MUDSTONE. Recovered as slightly clayey sandy angular to subangular fine to coarse gravel. (COAL MEASURES)<br><i>End of pit at 3.10 m</i>                                         | 3 |
|              |                             |      |         |           |           |                                                                                     |                                                                                                                                                                                                             | 4 |
|              |                             |      |         |           |           |                                                                                     |                                                                                                                                                                                                             | 5 |

|                                                                                                                                                                                                                                                                       |  |                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------|
| Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion. |  |  |
| Stability: 1. The sides of the trial pit remained stable during excavation.                                                                                                                                                                                           |  |                                                                                       |

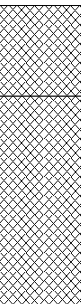
|                                                                                                                                                                                       |                             |      |         | <h1 style="text-align: center;">Trial Pit Log</h1> |              |                                                                                     | Trialpit No<br><b>TP104</b><br>Sheet 1 of 1                                                                                                                                                                                                                       |                    |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------|---------|----------------------------------------------------|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--|
| Project Name: Villa Farm, Bradley                                                                                                                                                                                                                                     |                             |      |         | Project No.<br>3319                                |              | Co-ords: 415052.22 - 420794.18<br>Level: 145.65                                     |                                                                                                                                                                                                                                                                   | Date<br>22/09/2020 |  |
| Location: Huddersfield                                                                                                                                                                                                                                                |                             |      |         | Dimensions (m):                                    |              | 3.2<br>0.7                                                                          |                                                                                                                                                                                                                                                                   | Scale<br>1:25      |  |
| Client: PS & SP Kershaw                                                                                                                                                                                                                                               |                             |      |         | Depth<br>4.50                                      |              |  |                                                                                                                                                                                                                                                                   | Logged<br>LEW      |  |
| Water<br>Strike                                                                                                                                                                                                                                                       | Samples and In Situ Testing |      |         | Depth<br>(m)                                       | Level<br>(m) | Legend                                                                              | Stratum Description                                                                                                                                                                                                                                               |                    |  |
|                                                                                                                                                                                                                                                                       | Depth                       | Type | Results |                                                    |              |                                                                                     |                                                                                                                                                                                                                                                                   |                    |  |
|                                                                                                                                                                                                                                                                       |                             |      |         | 0.30                                               | 145.35       |    | TOPSOIL: Dark brown slightly sandy CLAY with occasional rootlets.<br>(TOPSOIL)                                                                                                                                                                                    |                    |  |
|                                                                                                                                                                                                                                                                       |                             |      |         | 1.50                                               | 144.15       |    | MADE GROUND: Orangish brown and dark grey slightly sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse of mudstone and coal.<br>(BACKFILL MATERIAL)                                                                                               |                    |  |
|                                                                                                                                                                                                                                                                       |                             |      |         | 4.50                                               | 141.15       |   | MADE GROUND: Dark grey slightly sandy very gravelly CLAY with low cobble content. Gravel is angular to subangular fine to coarse of predominantly mudstone with rare coal and sandstone. Cobbles are subangular to subrounded of mudstone.<br>(BACKFILL MATERIAL) |                    |  |
|                                                                                                                                                                                                                                                                       |                             |      |         |                                                    |              |                                                                                     | End of pit at 4.50 m                                                                                                                                                                                                                                              |                    |  |
| Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion. |                             |      |         |                                                    |              |                                                                                     |                                                                                                                                                                                                                                                                   |                    |  |
| Stability: 1. The sides of the trial pit remained stable during excavation.                                                                                                                                                                                           |                             |      |         |                                                    |              |                                                                                     |                                                                                                                                                                                                                                                                   |                    |  |



|                                                                                                                                                                                       |                             |      |         | <h1 style="text-align: center;">Trial Pit Log</h1> |              |                                                                                     | Trialpit No<br><b>TP201</b><br>Sheet 1 of 1                                                                                                                                                           |                    |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------|---------|----------------------------------------------------|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--|
| Project Name: Villa Farm, Bradley                                                                                                                                                                                                                                     |                             |      |         | Project No.<br>3319                                |              | Co-ords: 415101.37 - 420838.35<br>Level: 140.85                                     |                                                                                                                                                                                                       | Date<br>30/06/2021 |  |
| Location: Huddersfield                                                                                                                                                                                                                                                |                             |      |         | Dimensions (m):                                    |              | 2.6                                                                                 |                                                                                                                                                                                                       | Scale<br>1:25      |  |
| Client: PS & SP Kershaw                                                                                                                                                                                                                                               |                             |      |         | Depth<br>1.80                                      |              |  |                                                                                                                                                                                                       | Logged<br>CC       |  |
| Water<br>Strike                                                                                                                                                                                                                                                       | Samples and In Situ Testing |      |         | Depth<br>(m)                                       | Level<br>(m) | Legend                                                                              | Stratum Description                                                                                                                                                                                   |                    |  |
|                                                                                                                                                                                                                                                                       | Depth                       | Type | Results |                                                    |              |                                                                                     |                                                                                                                                                                                                       |                    |  |
|                                                                                                                                                                                                                                                                       | 0.20                        | J&T  |         | 0.30                                               | 140.55       |   | MADE GROUND: Dark brown slightly gravelly SAND with occasional rootlets. Gravel is subangular to subrounded fine to coarse of mixed lithologies including mudstone and coal.<br>(MADE GROUND TOPSOIL) |                    |  |
|                                                                                                                                                                                                                                                                       | 0.60                        | J&T  | HVP=91  |                                                    |              |                                                                                     | MADE GROUND: Stiff dark brown gravelly CLAY. Gravel is angular to subangular fine to coarse of mudstone and clinker with rare coal.<br>(COHESIVE MADE GROUND)                                         |                    |  |
|                                                                                                                                                                                                                                                                       | 1.00                        | D&B  | HVP=100 |                                                    |              |                                                                                     |                                                                                                                                                                                                       |                    |  |
|                                                                                                                                                                                                                                                                       |                             |      |         | 1.80                                               | 139.05       |                                                                                     | At 1.8m, unable to excavate further due to sandstone boulder in the base of the pit.<br>End of pit at 1.80 m                                                                                          |                    |  |
| <div style="display: flex; justify-content: space-between;"> <span>1</span> <span>2</span> <span>3</span> <span>4</span> <span>5</span> </div>                                                                                                                        |                             |      |         |                                                    |              |                                                                                     |                                                                                                                                                                                                       |                    |  |
| Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion. |                             |      |         |                                                    |              |                                                                                     |                                                                                                                                                                                                       |                    |  |
| Stability: 1. The sides of the trial pit remained stable during excavation.                                                                                                                                                                                           |                             |      |         |                                                    |              |                                                                                     |                                                                                                                                                                                                       |                    |  |



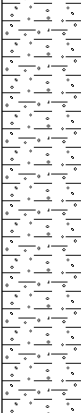
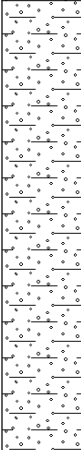
|                                                                                  |  |  |  |                                                                                                                                                                                                                                        |  |                                                 |  |                                             |  |
|----------------------------------------------------------------------------------|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------|--|---------------------------------------------|--|
|  |  |  |  | <h1 style="text-align: center;">Trial Pit Log</h1>                                                                                                                                                                                     |  |                                                 |  | Trialpit No<br><b>TP202</b><br>Sheet 1 of 1 |  |
| Project Name: Villa Farm, Bradley                                                |  |  |  | Project No.<br>3319                                                                                                                                                                                                                    |  | Co-ords: 415128.19 - 420846.47<br>Level: 140.55 |  | Date<br>30/06/2021                          |  |
| Location: Huddersfield                                                           |  |  |  | Dimensions (m): <div style="display: inline-block; vertical-align: middle; text-align: center;">           2.5<br/>           0.6<br/> <div style="border: 1px solid black; width: 100px; height: 30px; margin: 0 auto;"></div> </div> |  | Scale<br>1:25                                   |  | Logged<br>CC                                |  |
| Client: PS & SP Kershaw                                                          |  |  |  | Depth<br>3.40                                                                                                                                                                                                                          |  |                                                 |  |                                             |  |

| Water Strike | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                                                                              | Stratum Description                                                                                                                                                         |   |
|--------------|-----------------------------|------|---------|-----------|-----------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|              | Depth                       | Type | Results |           |           |                                                                                     |                                                                                                                                                                             |   |
|              | 0.10                        | J&T  | HVP=65  | 0.30      | 140.25    |    | MADE GROUND: Dark brown gravelly SAND with occasional rootlets. Gravel is angular to subangular fine to coarse of mudstone and rare coal.<br>(MADE GROUND TOPSOIL)          | 1 |
|              | 0.90                        | J&T  |         | 1.00      | 139.55    |                                                                                     | MADE GROUND: Dark greyish brown slightly clayey slightly sandy angular to subangular tabular fine to coarse GRAVEL of mudstone with rare coal.<br>(GRANULAR MADE GROUND)    |   |
|              | 1.60                        | D&B  |         |           |           |                                                                                     | MADE GROUND: Firm light greyish brown gravelly CLAY. Gravel is angular to subangular fine to coarse of mudstone and rare coal.<br>(COHESIVE MADE GROUND)                    |   |
|              | 1.80                        | J&T  |         |           |           |                                                                                     | 2                                                                                                                                                                           |   |
|              |                             |      |         |           |           |                                                                                     |                                                                                                                                                                             |   |
|              |                             |      |         |           |           |                                                                                     | From 2.4m, becoming very gravelly.                                                                                                                                          |   |
|              |                             |      |         | 3.10      | 137.45    |  | Dark grey angular to subangular tabular fine to coarse GRAVEL of mudstone with a high cobble content. Cobbles are angular, tabular of mudstone.<br>(GRANULAR RESIDUAL SOIL) | 3 |
|              |                             |      |         | 3.40      | 137.15    |                                                                                     | At 3.4m, collapse of southern face of trial pit wall between 0.8m and base of pit.<br>End of pit at 3.40 m                                                                  | 4 |
|              |                             |      |         |           |           |                                                                                     |                                                                                                                                                                             | 5 |

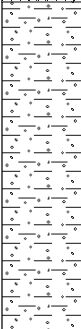
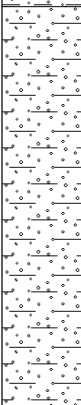
Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit were unstable between 0.8m and 3.4m depth during excavation.



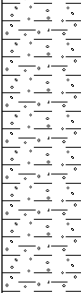
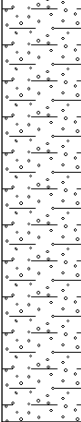
|                                                                                                                                                                                       |                             |      |         | <h1 style="text-align: center;">Trial Pit Log</h1> |              |                                                                                     | Trialpit No<br><b>TP203</b><br>Sheet 1 of 1                                                                                                                                                     |                    |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------|---------|----------------------------------------------------|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--|
| Project Name: Villa Farm, Bradley                                                                                                                                                                                                                                     |                             |      |         | Project No.<br>3319                                |              | Co-ords: 415134.09 - 420826.70<br>Level: 143.75                                     |                                                                                                                                                                                                 | Date<br>30/06/2021 |  |
| Location: Huddersfield                                                                                                                                                                                                                                                |                             |      |         | Dimensions (m):                                    |              | 2.3                                                                                 |                                                                                                                                                                                                 | Scale<br>1:25      |  |
| Client: PS & SP Kershaw                                                                                                                                                                                                                                               |                             |      |         | Depth<br>3.20                                      |              |  |                                                                                                                                                                                                 | Logged<br>CC       |  |
| Water<br>Strike                                                                                                                                                                                                                                                       | Samples and In Situ Testing |      |         | Depth<br>(m)                                       | Level<br>(m) | Legend                                                                              | Stratum Description                                                                                                                                                                             |                    |  |
|                                                                                                                                                                                                                                                                       | Depth                       | Type | Results |                                                    |              |                                                                                     |                                                                                                                                                                                                 |                    |  |
|                                                                                                                                                                                                                                                                       | 0.20                        | J&T  | HVP=112 | 0.30                                               | 143.45       |    | Dark brown slightly clayey slightly gravelly SAND with occasional rootlets. Gravel is subangular to subrounded fine to coarse of sandstone and mudstone (TOPSOIL)                               |                    |  |
|                                                                                                                                                                                                                                                                       | 1.30                        | D&B  | HVP=75  | 1.70                                               | 142.05       |    | Stiff light orange and grey mottled slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone and mudstone with rare coal. (COHESIVE RESIDUAL SOIL) |                    |  |
|                                                                                                                                                                                                                                                                       | 2.20                        | D    |         | 3.20                                               | 140.55       |   | Light grey clayey angular tabular fine to coarse GRAVEL of mudstone. (GRANULAR RESIDUAL SOIL)                                                                                                   |                    |  |
|                                                                                                                                                                                                                                                                       |                             |      |         |                                                    |              |                                                                                     | End of pit at 3.20 m                                                                                                                                                                            |                    |  |
| Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion. |                             |      |         |                                                    |              |                                                                                     |                                                                                                                                                                                                 |                    |  |
| Stability: 1. The sides of the trial pit remained stable during excavation.                                                                                                                                                                                           |                             |      |         |                                                    |              |                                                                                     |                                                                                                                                                                                                 |                    |  |



|                                                                                                                                                                                       |                             |      |         | <h1 style="text-align: center;">Trial Pit Log</h1> |              |                                                                                     |                                                                                                                                                                                                 | Trialpit No<br><b>TP204</b><br>Sheet 1 of 1 |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------|---------|----------------------------------------------------|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--|
| Project Name: Villa Farm, Bradley                                                                                                                                                                                                                                     |                             |      |         | Project No.<br>3319                                |              | Co-ords: 415117.79 - 420830.25<br>Level: 142.85                                     |                                                                                                                                                                                                 | Date<br>30/06/2021                          |  |
| Location: Huddersfield                                                                                                                                                                                                                                                |                             |      |         | Dimensions (m):                                    |              | 2.3                                                                                 |                                                                                                                                                                                                 | Scale<br>1:25                               |  |
| Client: PS & SP Kershaw                                                                                                                                                                                                                                               |                             |      |         | Depth<br>3.10                                      |              |  |                                                                                                                                                                                                 | Logged<br>CC                                |  |
| Water<br>Strike                                                                                                                                                                                                                                                       | Samples and In Situ Testing |      |         | Depth<br>(m)                                       | Level<br>(m) | Legend                                                                              | Stratum Description                                                                                                                                                                             |                                             |  |
|                                                                                                                                                                                                                                                                       | Depth                       | Type | Results |                                                    |              |                                                                                     |                                                                                                                                                                                                 |                                             |  |
|                                                                                                                                                                                                                                                                       | 0.20                        | J&T  | HVP=128 | 0.30                                               | 142.55       |    | MADE GROUND: Dark brown slightly gravelly SAND with occasional rootlets. Gravel is angular to subangular fine to medium of sandstone, mudstone and coal. (TOPSOIL)                              |                                             |  |
|                                                                                                                                                                                                                                                                       |                             |      |         | 0.60                                               | 142.25       |    | MADE GROUND: Dark grey clayey angular tabular fine to coarse GRAVEL of mudstone and rare coal. (GRANULAR MADE GROUND)                                                                           |                                             |  |
|                                                                                                                                                                                                                                                                       |                             |      |         |                                                    |              |    | Stiff light orange and grey mottled slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone and mudstone with rare coal. (COHESIVE RESIDUAL SOIL) |                                             |  |
|                                                                                                                                                                                                                                                                       | 1.80                        | D&B  |         | 1.70                                               | 141.15       |   | Light grey clayey angular to subangular tabular fine to coarse GRAVEL of mudstone. (GRANULAR RESIDUAL SOIL)                                                                                     |                                             |  |
|                                                                                                                                                                                                                                                                       |                             |      |         | 3.10                                               | 139.75       |  | At 3.1m, difficult to excavate further.<br>End of pit at 3.10 m                                                                                                                                 |                                             |  |
| Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion. |                             |      |         |                                                    |              |                                                                                     |                                                                                                                                                                                                 |                                             |  |
| Stability: 1. The sides of the trial pit remained stable during excavation.                                                                                                                                                                                           |                             |      |         |                                                    |              |                                                                                     |                                                                                                                                                                                                 |                                             |  |



|                                                                                  |  |  |  |                                                                                                                                                                                                                                        |  |                                                 |                                             |                    |  |
|----------------------------------------------------------------------------------|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------|---------------------------------------------|--------------------|--|
|  |  |  |  | <h1>Trial Pit Log</h1>                                                                                                                                                                                                                 |  |                                                 | Trialpit No<br><b>TP205</b><br>Sheet 1 of 1 |                    |  |
| Project Name: Villa Farm, Bradley                                                |  |  |  | Project No.<br>3319                                                                                                                                                                                                                    |  | Co-ords: 415104.39 - 420814.31<br>Level: 144.80 |                                             | Date<br>30/06/2021 |  |
| Location: Huddersfield                                                           |  |  |  | Dimensions (m): <div style="display: inline-block; vertical-align: middle; text-align: center;">           2.8<br/>           0.6<br/> <div style="border: 1px solid black; width: 100px; height: 40px; margin: 0 auto;"></div> </div> |  | Scale<br>1:25                                   |                                             | Logged<br>CC       |  |
| Client: PS & SP Kershaw                                                          |  |  |  | Depth<br>3.20                                                                                                                                                                                                                          |  |                                                 |                                             |                    |  |

| Water Strike | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                                                                              | Stratum Description                                                                                                                                                     |   |
|--------------|-----------------------------|------|---------|-----------|-----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|              | Depth                       | Type | Results |           |           |                                                                                     |                                                                                                                                                                         |   |
|              | 0.20                        | J&T  | HVP=128 | 0.30      | 144.50    |    | Dark brown slightly gravelly SAND. Gravel is subangular to subrounded fine to coarse of mudstone, sandstone and rare coal. (TOPSOIL)                                    | 1 |
|              |                             |      |         |           |           |    | Stiff light orange and grey mottled gravelly slightly sandy CLAY. Gravel is subangular to subrounded fine to coarse of sandstone and mudstone. (COHESIVE RESIDUAL SOIL) |   |
|              | 1.80                        | D&B  |         | 1.30      | 143.50    |   | Light grey clayey slightly sandy angular to subangular tabular fine to coarse GRAVEL of mudstone. (GRANULAR MADE GROUND)                                                | 2 |
|              |                             |      |         | 2.70      | 142.10    |  | Moderately weak dark grey MUDSTONE. Recovered as slightly sandy angular tabular fine to coarse gravel. (COAL MEASURES)                                                  | 3 |
|              |                             |      |         | 3.20      | 141.60    |  | At 3.2m, difficult to excavate further.<br>End of pit at 3.20 m                                                                                                         | 4 |
|              |                             |      |         |           |           |                                                                                     |                                                                                                                                                                         | 5 |

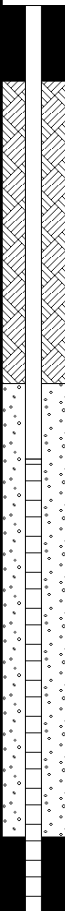
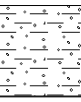
Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

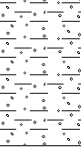
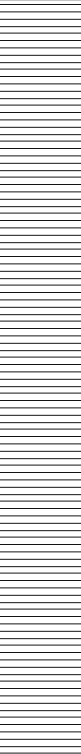
Stability: 1. The sides of the trial pit remained stable during excavation.

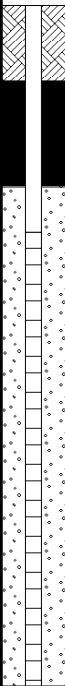
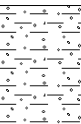
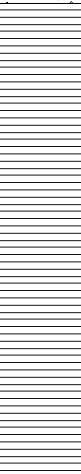


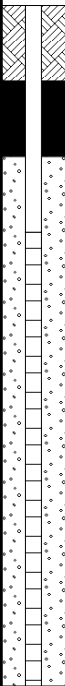
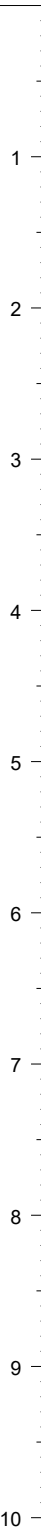
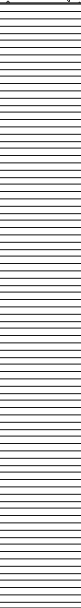


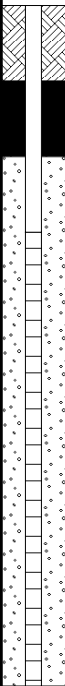
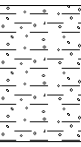


|    |               |                             |      | <h1>Borehole Log</h1>          |           |                                | Borehole No.<br><b>PH101</b><br>Sheet 1 of 1                                      |                                                                      |                                                                                       |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      | Project No.<br>3319            |           | Co-ords: 415179.00 - 420463.23 |                                                                                   | Hole Type<br>PH                                                      |                                                                                       |
| Location: Huddersfield                                                             |               |                             |      | Level: 161.35                  |           | Scale<br>1:50                  |                                                                                   | Logged By<br>RR                                                      |                                                                                       |
| Client: PS & SP Kershaw                                                            |               |                             |      | Dates: 22/09/2020 - 22/09/2020 |           |                                |                                                                                   |                                                                      |                                                                                       |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                      | Legend                                                                            | Stratum Description                                                  |                                                                                       |
|                                                                                    |               | Depth (m)                   | Type | Results                        |           |                                |                                                                                   |                                                                      |                                                                                       |
|  |               |                             |      |                                | 0.60      | 160.75                         |  | Overburden                                                           | 1                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                   | MUDSTONE: Recovered as angular to sub-angular fine to coarse GRAVEL. |                                                                                       |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                   |                                                                      | 3                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                   |                                                                      | 4                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                   |                                                                      | 5                                                                                     |
|                                                                                    |               |                             |      |                                | 6.00      | 155.35                         |                                                                                   | End of borehole at 6.00 m                                            | 6                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                   |                                                                      | 7                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                   |                                                                      | 8                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                   |                                                                      | 9                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                   |                                                                      | 10                                                                                    |
| Remarks                                                                            |               |                             |      |                                |           |                                |                                                                                   |                                                                      |  |

|  |               |                             |      | <h1>Borehole Log</h1>          |           |                                | Borehole No.<br><b>PH102</b><br>Sheet 1 of 1                                       |                                                                                       |    |
|----------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----|
| Project Name: Villa Farm, Bradley                                                |               |                             |      | Project No.<br>3319            |           | Co-ords: 415256.97 - 420427.53 |                                                                                    | Hole Type<br>PH                                                                       |    |
| Location: Huddersfield                                                           |               |                             |      | Level: 162.45                  |           | Scale<br>1:50                  |                                                                                    |                                                                                       |    |
| Client: PS & SP Kershaw                                                          |               |                             |      | Dates: 22/09/2020 - 22/09/2020 |           | Logged By<br>RR                |                                                                                    |                                                                                       |    |
| Well                                                                             | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                      | Legend                                                                             | Stratum Description                                                                   |    |
|                                                                                  |               | Depth (m)                   | Type | Results                        |           |                                |                                                                                    |                                                                                       |    |
|                                                                                  |               |                             |      |                                | 1.00      | 161.45                         |   | Overburden                                                                            | 1  |
|                                                                                  |               |                             |      |                                |           |                                |  | MUDSTONE: Recovered as slightly sandy angular to sub-angular fine to coarse GRAVEL.   | 2  |
|                                                                                  |               |                             |      |                                |           |                                |                                                                                    |                                                                                       | 3  |
|                                                                                  |               |                             |      |                                |           |                                |                                                                                    |                                                                                       | 4  |
|                                                                                  |               |                             |      |                                |           |                                |                                                                                    |                                                                                       | 5  |
|                                                                                  |               |                             |      |                                | 6.00      | 156.45                         |                                                                                    | End of borehole at 6.00 m                                                             | 6  |
|                                                                                  |               |                             |      |                                |           |                                |                                                                                    |                                                                                       | 7  |
|                                                                                  |               |                             |      |                                |           |                                |                                                                                    |                                                                                       | 8  |
|                                                                                  |               |                             |      |                                |           |                                |                                                                                    |                                                                                       | 9  |
|                                                                                  |               |                             |      |                                |           |                                |                                                                                    |                                                                                       | 10 |
| Remarks                                                                          |               |                             |      |                                |           |                                |                                                                                    |  |    |

|    |               |                             |      | <h1>Borehole Log</h1>          |           |                                | Borehole No.<br><b>PH103</b><br>Sheet 1 of 1                                        |                                                                                     |                                                                                       |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      | Project No.<br>3319            |           | Co-ords: 415343.35 - 420471.59 |                                                                                     | Hole Type<br>PH                                                                     |                                                                                       |
| Location: Huddersfield                                                             |               |                             |      | Level: 161.20                  |           | Scale<br>1:50                  |                                                                                     |                                                                                     |                                                                                       |
| Client: PS & SP Kershaw                                                            |               |                             |      | Dates: 22/09/2020 - 22/09/2020 |           | Logged By<br>RR                |                                                                                     |                                                                                     |                                                                                       |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                      | Legend                                                                              | Stratum Description                                                                 |                                                                                       |
|                                                                                    |               | Depth (m)                   | Type | Results                        |           |                                |                                                                                     |                                                                                     |                                                                                       |
|  |               |                             |      |                                | 0.80      | 160.40                         |    | Overburden                                                                          |                                                                                       |
|                                                                                    |               |                             |      |                                |           |                                |   | MUDSTONE: Recovered as slightly sandy angular to sub-angular fine to coarse GRAVEL. | 1                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                     | 2                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                     | 3                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                     | 4                                                                                     |
|                                                                                    |               |                             |      |                                | 3.95      | 157.25                         |  | COAL                                                                                |                                                                                       |
|                                                                                    |               |                             |      |                                | 4.15      | 157.05                         |  | MUDSTONE: Recovered as slightly sandy angular to sub-angular fine to coarse GRAVEL. |                                                                                       |
|                                                                                    |               |                             |      |                                | 4.50      | 156.70                         | End of borehole at 4.50 m                                                           |                                                                                     |                                                                                       |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                     | 5                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                     | 6                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                     | 7                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                     | 8                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                     | 9                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                     | 10                                                                                    |
| Remarks                                                                            |               |                             |      |                                |           |                                |                                                                                     |                                                                                     |  |

|    |               |                             |      | <h1>Borehole Log</h1>          |           |                                | Borehole No.<br><b>PH104</b><br>Sheet 1 of 1                                      |                                                                                    |                                                                                       |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      | Project No.<br>3319            |           | Co-ords: 415377.70 - 420503.32 |                                                                                   | Hole Type<br>PH                                                                    |                                                                                       |
| Location: Huddersfield                                                             |               |                             |      | Level: 159.95                  |           | Scale<br>1:50                  |                                                                                   |                                                                                    |                                                                                       |
| Client: PS & SP Kershaw                                                            |               |                             |      | Dates: 22/09/2020 - 22/09/2020 |           | Logged By<br>RR                |                                                                                   |                                                                                    |                                                                                       |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                      | Legend                                                                            | Stratum Description                                                                |                                                                                       |
|                                                                                    |               | Depth (m)                   | Type | Results                        |           |                                |                                                                                   |                                                                                    |                                                                                       |
|  |               |                             |      |                                | 0.50      | 159.45                         |  | Overburden                                                                         |   |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                   |  |                                                                                       |
|                                                                                    |               |                             |      |                                | 4.50      | 155.45                         |                                                                                   | End of borehole at 4.50 m                                                          |                                                                                       |
| Remarks                                                                            |               |                             |      |                                |           |                                |                                                                                   |                                                                                    |  |

|    |               |                             |      | <h1>Borehole Log</h1>          |           |                                |                                                                                    | Borehole No.<br><b>PH105</b><br>Sheet 1 of 1                         |                                                                                       |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      | Project No.<br>3319            |           | Co-ords: 415345.07 - 420596.23 |                                                                                    | Hole Type<br>PH                                                      |                                                                                       |
| Location: Huddersfield                                                             |               |                             |      | Level: 161.60                  |           | Scale<br>1:50                  |                                                                                    |                                                                      |                                                                                       |
| Client: PS & SP Kershaw                                                            |               |                             |      | Dates: 22/09/2020 - 22/09/2020 |           | Logged By<br>RR                |                                                                                    |                                                                      |                                                                                       |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                      | Legend                                                                             | Stratum Description                                                  |                                                                                       |
|                                                                                    |               | Depth (m)                   | Type | Results                        |           |                                |                                                                                    |                                                                      |                                                                                       |
|  |               |                             |      |                                | 0.90      | 160.70                         |   | Overburden                                                           |                                                                                       |
|                                                                                    |               |                             |      |                                |           |                                |  | MUDSTONE: Recovered as angular to sub-angular fine to coarse GRAVEL. | 1                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                      | 2                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                      | 3                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                      | 4                                                                                     |
|                                                                                    |               |                             |      |                                | 4.50      | 157.10                         |                                                                                    | End of borehole at 4.50 m                                            | 5                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                      | 6                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                      | 7                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                      | 8                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                      | 9                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                      | 10                                                                                    |
| Remarks                                                                            |               |                             |      |                                |           |                                |                                                                                    |                                                                      |  |

|  |               |                             |      | <h1>Borehole Log</h1>          |           |                                | Borehole No.<br><b>PH106</b><br>Sheet 1 of 1 |                                                                      |   |
|----------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------|----------------------------------------------|----------------------------------------------------------------------|---|
| Project Name: Villa Farm, Bradley                                                |               |                             |      | Project No.<br>3319            |           | Co-ords: 415310.08 - 420543.54 |                                              | Hole Type<br>PH                                                      |   |
| Location: Huddersfield                                                           |               |                             |      | Level: 163.45                  |           | Scale<br>1:50                  |                                              |                                                                      |   |
| Client: PS & SP Kershaw                                                          |               |                             |      | Dates: 22/09/2020 - 22/09/2020 |           | Logged By<br>RR                |                                              |                                                                      |   |
| Well                                                                             | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                      | Legend                                       | Stratum Description                                                  |   |
|                                                                                  |               | Depth (m)                   | Type | Results                        |           |                                |                                              |                                                                      |   |
|                                                                                  |               |                             |      |                                | 0.50      | 162.95                         |                                              | Overburden                                                           | 1 |
|                                                                                  |               |                             |      |                                |           |                                |                                              | MUDSTONE: Recovered as angular to sub-angular fine to coarse GRAVEL. |   |
|                                                                                  |               |                             |      |                                | 2.50      | 160.95                         |                                              | COAL                                                                 | 3 |
|                                                                                  |               |                             |      |                                | 2.65      | 160.80                         |                                              | MUDSTONE: Recovered as angular to sub-angular fine to coarse GRAVEL. |   |
|                                                                                  |               |                             |      |                                |           |                                |                                              |                                                                      | 4 |
|                                                                                  |               |                             |      |                                |           |                                |                                              |                                                                      |   |
|                                                                                  |               |                             |      |                                | 4.50      | 158.95                         |                                              |                                                                      | 5 |
|                                                                                  |               |                             |      |                                |           |                                |                                              |                                                                      |   |
|                                                                                  |               |                             |      |                                |           |                                |                                              |                                                                      | 6 |
|                                                                                  |               |                             |      |                                |           |                                |                                              |                                                                      |   |
|                                                                                  |               |                             |      |                                |           |                                |                                              | 7                                                                    |   |
|                                                                                  |               |                             |      |                                |           |                                |                                              |                                                                      |   |
|                                                                                  |               |                             |      |                                |           |                                |                                              | 8                                                                    |   |
|                                                                                  |               |                             |      |                                |           |                                |                                              |                                                                      |   |
|                                                                                  |               |                             |      |                                |           |                                |                                              | 9                                                                    |   |
|                                                                                  |               |                             |      |                                |           |                                |                                              |                                                                      |   |
|                                                                                  |               |                             |      |                                |           |                                |                                              | 10                                                                   |   |
|                                                                                  |               |                             |      |                                |           |                                |                                              |                                                                      |   |
| End of borehole at 4.50 m                                                        |               |                             |      |                                |           |                                |                                              |                                                                      |   |
| Remarks                                                                          |               |                             |      |                                |           |                                |                                              |                                                                      |   |



# Borehole Log

Borehole No.

**PH107**

Sheet 1 of 1

Project Name: Villa Farm, Bradley

Project No.  
3319

Co-ords: 415104.96 - 420507.84

Hole Type  
PH

Location: Huddersfield

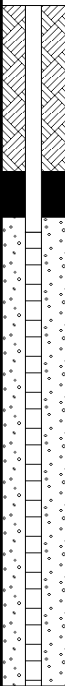
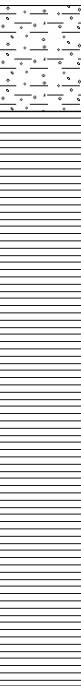
Level: 161.55

Scale  
1:50

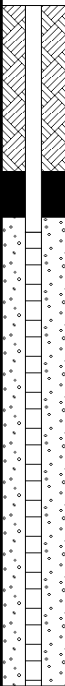
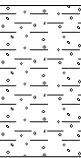
Client: PS &amp; SP Kershaw

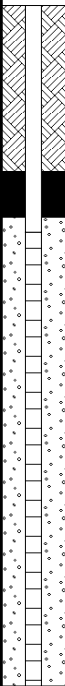
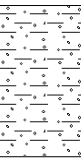
Dates: 22/09/2020 - 22/09/2020

Logged By  
RR

| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                                                                             | Stratum Description                                                  |    |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|---------|-----------|-----------|------------------------------------------------------------------------------------|----------------------------------------------------------------------|----|
|                                                                                    |               | Depth (m)                   | Type | Results |           |           |                                                                                    |                                                                      |    |
|  |               |                             |      |         | 0.70      | 160.85    |  | Overburden                                                           |    |
|                                                                                    |               |                             |      |         |           |           |                                                                                    | MUDSTONE: Recovered as angular to sub-angular fine to coarse GRAVEL. | 1  |
|                                                                                    |               |                             |      |         |           |           |                                                                                    |                                                                      | 2  |
|                                                                                    |               |                             |      |         |           |           |                                                                                    |                                                                      | 3  |
|                                                                                    |               |                             |      |         |           |           |                                                                                    |                                                                      | 4  |
|                                                                                    |               |                             |      |         | 4.50      | 157.05    |                                                                                    | End of borehole at 4.50 m                                            | 5  |
|                                                                                    |               |                             |      |         |           |           |                                                                                    |                                                                      | 6  |
|                                                                                    |               |                             |      |         |           |           |                                                                                    |                                                                      | 7  |
|                                                                                    |               |                             |      |         |           |           |                                                                                    |                                                                      | 8  |
|                                                                                    |               |                             |      |         |           |           |                                                                                    |                                                                      | 9  |
|                                                                                    |               |                             |      |         |           |           |                                                                                    |                                                                      | 10 |

Remarks

|    |               |                             |      | <h1>Borehole Log</h1>          |           |                                | Borehole No.<br><b>PH108</b><br>Sheet 1 of 1                                        |                                                                                                   |                                                                                       |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      | Project No.<br>3319            |           | Co-ords: 415200.56 - 420527.55 |                                                                                     | Hole Type<br>PH                                                                                   |                                                                                       |
| Location: Huddersfield                                                             |               |                             |      | Level: 163.45                  |           | Scale<br>1:50                  |                                                                                     |                                                                                                   |                                                                                       |
| Client: PS & SP Kershaw                                                            |               |                             |      | Dates: 22/09/2020 - 22/09/2020 |           | Logged By<br>RR                |                                                                                     |                                                                                                   |                                                                                       |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                      | Legend                                                                              | Stratum Description                                                                               |                                                                                       |
|                                                                                    |               | Depth (m)                   | Type | Results                        |           |                                |                                                                                     |                                                                                                   |                                                                                       |
|  |               |                             |      |                                | 1.00      | 162.45                         |    | Overburden                                                                                        | 1                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |   | MUDSTONE: Recovered as yellow brown slightly clayey angular to sub-angular fine to coarse GRAVEL. | 2                                                                                     |
|                                                                                    |               |                             |      |                                | 4.50      | 158.95                         |  | End of borehole at 4.50 m                                                                         | 3                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                                   | 4                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                                   | 5                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                                   | 6                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                                   | 7                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                                   | 8                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                                   | 9                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                                   | 10                                                                                    |
| Remarks                                                                            |               |                             |      |                                |           |                                |                                                                                     |                                                                                                   |  |

|    |               |                             |      | <h1>Borehole Log</h1>          |           |                                | Borehole No.<br><b>PH109</b><br>Sheet 1 of 1                                        |                                                                                                   |                                                                                       |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      | Project No.<br>3319            |           | Co-ords: 415242.77 - 420600.30 |                                                                                     | Hole Type<br>PH                                                                                   |                                                                                       |
| Location: Huddersfield                                                             |               |                             |      | Level: 163.85                  |           | Scale<br>1:50                  |                                                                                     |                                                                                                   |                                                                                       |
| Client: PS & SP Kershaw                                                            |               |                             |      | Dates: 22/09/2020 - 22/09/2020 |           | Logged By<br>RR                |                                                                                     |                                                                                                   |                                                                                       |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                      | Legend                                                                              | Stratum Description                                                                               |                                                                                       |
|                                                                                    |               | Depth (m)                   | Type | Results                        |           |                                |                                                                                     |                                                                                                   |                                                                                       |
|  |               |                             |      |                                | 1.00      | 162.85                         |    | Overburden                                                                                        | 1                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |   | MUDSTONE: Recovered as yellow brown slightly clayey angular to sub-angular fine to coarse GRAVEL. | 2                                                                                     |
|                                                                                    |               |                             |      |                                | 4.50      | 159.35                         |  | End of borehole at 4.50 m                                                                         | 3                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                                   | 4                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                                   | 5                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                                   | 6                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                                   | 7                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                                   | 8                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                                   | 9                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                                                   | 10                                                                                    |
| Remarks                                                                            |               |                             |      |                                |           |                                |                                                                                     |                                                                                                   |  |

# Borehole Log

Borehole No.

**PH110**

Sheet 1 of 1

Project Name: Villa Farm, Bradley

Project No.  
3319

Co-ords: 415251.21 - 420698.02

Hole Type  
PH

Location: Huddersfield

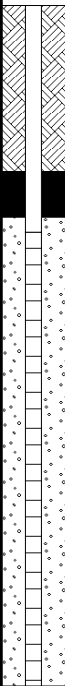
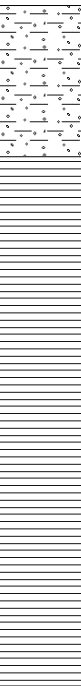
Level: 152.95

Scale  
1:50

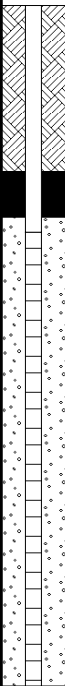
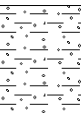
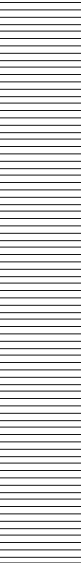
Client: PS & SP Kershaw

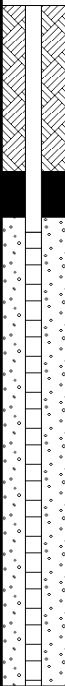
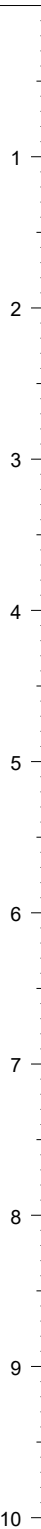
Dates: 22/09/2020 - 22/09/2020

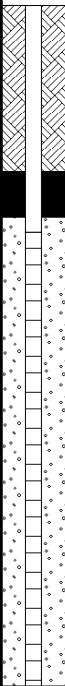
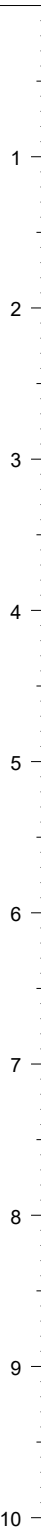
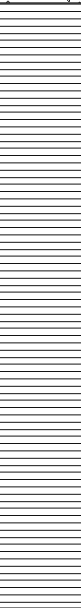
Logged By  
RR

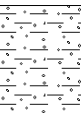
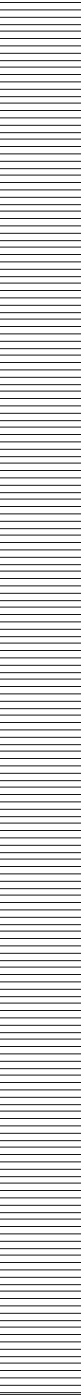
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                                                                             | Stratum Description                                                                   |    |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|---------|-----------|-----------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----|
|                                                                                    |               | Depth (m)                   | Type | Results |           |           |                                                                                    |                                                                                       |    |
|  |               |                             |      |         | 1.00      | 151.95    |  | Overburden                                                                            | 1  |
|                                                                                    |               |                             |      |         |           |           |                                                                                    | MUDSTONE: Recovered as light brown grey angular to sub-angular fine to coarse GRAVEL. | 2  |
|                                                                                    |               |                             |      |         |           |           |                                                                                    |                                                                                       | 3  |
|                                                                                    |               |                             |      |         |           |           |                                                                                    |                                                                                       | 4  |
|                                                                                    |               |                             |      |         | 4.50      | 148.45    |                                                                                    | End of borehole at 4.50 m                                                             | 5  |
|                                                                                    |               |                             |      |         |           |           |                                                                                    |                                                                                       | 6  |
|                                                                                    |               |                             |      |         |           |           |                                                                                    |                                                                                       | 7  |
|                                                                                    |               |                             |      |         |           |           |                                                                                    |                                                                                       | 8  |
|                                                                                    |               |                             |      |         |           |           |                                                                                    |                                                                                       | 9  |
|                                                                                    |               |                             |      |         |           |           |                                                                                    |                                                                                       | 10 |

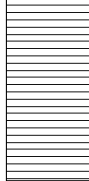
Remarks

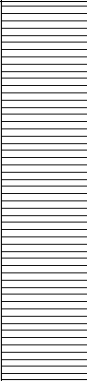
|    |               |                             |      | <h1>Borehole Log</h1>          |           |                                | Borehole No.<br><b>PH111</b><br>Sheet 1 of 1                                       |                                                                                         |                                                                                       |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      | Project No.<br>3319            |           | Co-ords: 415195.74 - 420671.72 |                                                                                    | Hole Type<br>PH                                                                         |                                                                                       |
| Location: Huddersfield                                                             |               |                             |      | Level: 154.25                  |           | Scale<br>1:50                  |                                                                                    |                                                                                         |                                                                                       |
| Client: PS & SP Kershaw                                                            |               |                             |      | Dates: 22/09/2020 - 22/09/2020 |           | Logged By<br>RR                |                                                                                    |                                                                                         |                                                                                       |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                      | Legend                                                                             | Stratum Description                                                                     |                                                                                       |
|                                                                                    |               | Depth (m)                   | Type | Results                        |           |                                |                                                                                    |                                                                                         |                                                                                       |
|  |               |                             |      |                                | 0.75      | 153.50                         |   | Overburden                                                                              |                                                                                       |
|                                                                                    |               |                             |      |                                |           |                                |  | MUDSTONE: Recovered as light brown orange angular to sub-angular fine to coarse GRAVEL. | 1                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 2                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 3                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 4                                                                                     |
|                                                                                    |               |                             |      |                                | 4.50      | 149.75                         |                                                                                    | End of borehole at 4.50 m                                                               | 5                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 6                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 7                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 8                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 9                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 10                                                                                    |
| Remarks                                                                            |               |                             |      |                                |           |                                |                                                                                    |                                                                                         |  |

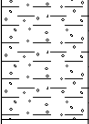
|    |               |                             |      | <h1>Borehole Log</h1>          |           |                                | Borehole No.<br><b>PH112</b><br>Sheet 1 of 1                                      |                                                                                   |                                                                                       |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      | Project No.<br>3319            |           | Co-ords: 415114.55 - 420595.91 |                                                                                   | Hole Type<br>PH                                                                   |                                                                                       |
| Location: Huddersfield                                                             |               |                             |      | Level: 158.80                  |           | Scale<br>1:50                  |                                                                                   |                                                                                   |                                                                                       |
| Client: PS & SP Kershaw                                                            |               |                             |      | Dates: 22/09/2020 - 22/09/2020 |           | Logged By<br>RR                |                                                                                   |                                                                                   |                                                                                       |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                      | Legend                                                                            | Stratum Description                                                               |                                                                                       |
|                                                                                    |               | Depth (m)                   | Type | Results                        |           |                                |                                                                                   |                                                                                   |                                                                                       |
|  |               |                             |      |                                | 0.40      | 158.40                         |  | Overburden                                                                        |   |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                   |  |                                                                                       |
|                                                                                    |               |                             |      |                                | 4.50      | 154.30                         |                                                                                   | <div>End of borehole at 4.50 m</div>                                              |                                                                                       |
| Remarks                                                                            |               |                             |      |                                |           |                                |                                                                                   |                                                                                   |  |

|    |               |                             |      | <h1>Borehole Log</h1>          |           |                                | Borehole No.<br><b>PH113</b><br>Sheet 1 of 1                                      |                                                                                       |                                                                                      |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      | Project No. 3319               |           | Co-ords: 415020.96 - 420556.20 |                                                                                   | Hole Type<br>PH                                                                       |                                                                                      |
| Location: Huddersfield                                                             |               |                             |      | Level: 162.45                  |           | Scale<br>1:50                  |                                                                                   |                                                                                       |                                                                                      |
| Client: PS & SP Kershaw                                                            |               |                             |      | Dates: 22/09/2020 - 22/09/2020 |           | Logged By<br>RR                |                                                                                   |                                                                                       |                                                                                      |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                      | Legend                                                                            | Stratum Description                                                                   |                                                                                      |
|                                                                                    |               | Depth (m)                   | Type | Results                        |           |                                |                                                                                   |                                                                                       |                                                                                      |
|  |               |                             |      |                                | 0.50      | 161.95                         |  | Overburden                                                                            |  |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                   |     |                                                                                      |
|                                                                                    |               |                             |      |                                | 4.50      | 157.95                         | End of borehole at 4.50 m                                                         |                                                                                       |                                                                                      |
| Remarks                                                                            |               |                             |      |                                |           |                                |                                                                                   |                                                                                       |                                                                                      |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                   |  |                                                                                      |

|    |               |                             |      | <h1>Borehole Log</h1>          |           |                                |                                                                                    | Borehole No.<br><b>PH114</b><br>Sheet 1 of 3                                            |                                                                                       |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      | Project No.<br>3319            |           | Co-ords: 415179.51 - 420793.12 |                                                                                    | Hole Type<br>PH                                                                         |                                                                                       |
| Location: Huddersfield                                                             |               |                             |      | Level: 151.10                  |           | Scale<br>1:50                  |                                                                                    |                                                                                         |                                                                                       |
| Client: PS & SP Kershaw                                                            |               |                             |      | Dates: 23/09/2020 - 23/09/2020 |           | Logged By<br>RR                |                                                                                    |                                                                                         |                                                                                       |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                      | Legend                                                                             | Stratum Description                                                                     |                                                                                       |
|                                                                                    |               | Depth (m)                   | Type | Results                        |           |                                |                                                                                    |                                                                                         |                                                                                       |
|  |               |                             |      |                                | 0.75      | 150.35                         |   | Overburden                                                                              |                                                                                       |
|                                                                                    |               |                             |      |                                |           |                                |  | MUDSTONE: Recovered as light brown orange angular to sub-angular fine to coarse GRAVEL. | 1                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 2                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 3                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 4                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 5                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 6                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 7                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 8                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 9                                                                                     |
| Continued on next sheet                                                            |               |                             |      |                                |           |                                |                                                                                    | 10                                                                                      |                                                                                       |
| Remarks                                                                            |               |                             |      |                                |           |                                |                                                                                    |                                                                                         |  |

|    |               |                             |      |         | <h1>Borehole Log</h1>          |           |                                                                                    | Borehole No.<br><b>PH114</b><br>Sheet 2 of 3 |                                                                                       |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|---------|--------------------------------|-----------|------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------|--|--|--|-------|--------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      |         | Project No.<br>3319            |           | Co-ords: 415179.51 - 420793.12                                                     |                                              | Hole Type<br>PH                                                                       |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
| Location: Huddersfield                                                             |               |                             |      |         | Level: 151.10                  |           | Scale<br>1:50                                                                      |                                              |                                                                                       |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
| Client: PS & SP Kershaw                                                            |               |                             |      |         | Dates: 23/09/2020 - 23/09/2020 |           | Logged By<br>RR                                                                    |                                              |                                                                                       |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |         | Depth (m)                      | Level (m) | Legend                                                                             | Stratum Description                          |                                                                                       |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               | Depth (m)                   | Type | Results |                                |           |                                                                                    |                                              |                                                                                       |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|  |               |                             |      |         |                                |           |  |                                              | 11                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 12                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 13                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 14                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 15                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 16                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 17                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 18                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 19                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 20                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 21                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 22                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 23                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 24                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 25                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 26                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 27                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 28                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              |                                                                                       |  |  |  |       | 18.00  | 133.10                                                                              |  | COAL                                                                            | 18 |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              |                                                                                       |  |  |  | 18.80 | 132.30 |  |                                                                                     | MUDSTONE: Recovered as light grey angular to sub-angular fine to coarse GRAVEL. | 19 |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    | Continued on next sheet                      | 20                                                                                    |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
| Remarks                                                                            |               |                             |      |         |                                |           |                                                                                    |                                              |  |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              |                                                                                       |  |  |  |       |        |                                                                                     |                                                                                     |                                                                                 |    |

|   |                  |                             |      |         | <h1>Borehole Log</h1>          |              |                                                                                   | Borehole No.<br><b>PH114</b><br>Sheet 3 of 3 |                                                                                       |  |  |
|-----------------------------------------------------------------------------------|------------------|-----------------------------|------|---------|--------------------------------|--------------|-----------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------|--|--|
| Project Name: Villa Farm, Bradley                                                 |                  |                             |      |         | Project No.<br>3319            |              | Co-ords: 415179.51 - 420793.12                                                    |                                              | Hole Type<br>PH                                                                       |  |  |
| Location: Huddersfield                                                            |                  |                             |      |         | Level: 151.10                  |              | Scale<br>1:50                                                                     |                                              | Logged By<br>RR                                                                       |  |  |
| Client: PS & SP Kershaw                                                           |                  |                             |      |         | Dates: 23/09/2020 - 23/09/2020 |              |                                                                                   |                                              |                                                                                       |  |  |
| Well                                                                              | Water<br>Strikes | Samples and In Situ Testing |      |         | Depth<br>(m)                   | Level<br>(m) | Legend                                                                            | Stratum Description                          |                                                                                       |  |  |
|                                                                                   |                  | Depth (m)                   | Type | Results |                                |              |                                                                                   |                                              |                                                                                       |  |  |
|  |                  |                             |      |         | 22.50                          | 128.60       |  |                                              |                                                                                       |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   | End of borehole at 22.50 m                   |                                                                                       |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 21                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 22                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 23                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 24                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 25                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 26                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 27                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 28                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 29                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 30                                                                                    |  |  |
| Remarks                                                                           |                  |                             |      |         |                                |              |                                                                                   |                                              |  |  |  |

|  |               |                             |      |         | <h1>Borehole Log</h1>          |           |                                                                                    | Borehole No.<br><b>PH115</b><br>Sheet 1 of 3                                                    |                 |                                                                                       |  |
|----------------------------------------------------------------------------------|---------------|-----------------------------|------|---------|--------------------------------|-----------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------|--|
| Project Name: Villa Farm, Bradley                                                |               |                             |      |         | Project No.<br>3319            |           | Co-ords: 415109.98 - 420787.49                                                     |                                                                                                 | Hole Type<br>PH |                                                                                       |  |
| Location: Huddersfield                                                           |               |                             |      |         | Level: 150.30                  |           | Scale<br>1:50                                                                      |                                                                                                 | Logged By<br>RR |                                                                                       |  |
| Client: PS & SP Kershaw                                                          |               |                             |      |         | Dates: 23/09/2020 - 23/09/2020 |           |                                                                                    |                                                                                                 |                 |                                                                                       |  |
| Well                                                                             | Water Strikes | Samples and In Situ Testing |      |         | Depth (m)                      | Level (m) | Legend                                                                             | Stratum Description                                                                             |                 |                                                                                       |  |
|                                                                                  |               | Depth (m)                   | Type | Results |                                |           |                                                                                    |                                                                                                 |                 |                                                                                       |  |
|                                                                                  |               |                             |      |         | 0.80                           | 149.50    |   | Overburden                                                                                      |                 |                                                                                       |  |
|                                                                                  |               |                             |      |         |                                |           |  | MUDSTONE: Recovered as light grey slightly clayey angular to sub-angular fine to coarse GRAVEL. |                 | 1                                                                                     |  |
|                                                                                  |               |                             |      |         |                                |           |                                                                                    |                                                                                                 |                 | 2                                                                                     |  |
|                                                                                  |               |                             |      |         |                                |           |                                                                                    |                                                                                                 |                 | 3                                                                                     |  |
|                                                                                  |               |                             |      |         |                                |           |                                                                                    |                                                                                                 |                 | 4                                                                                     |  |
|                                                                                  |               |                             |      |         |                                |           |                                                                                    |                                                                                                 |                 | 5                                                                                     |  |
|                                                                                  |               |                             |      |         |                                |           |                                                                                    |                                                                                                 |                 | 6                                                                                     |  |
|                                                                                  |               |                             |      |         |                                |           |                                                                                    |                                                                                                 |                 | 7                                                                                     |  |
|                                                                                  |               |                             |      |         |                                |           |                                                                                    |                                                                                                 |                 | 8                                                                                     |  |
|                                                                                  |               |                             |      |         |                                |           |                                                                                    |                                                                                                 |                 | 9                                                                                     |  |
|                                                                                  |               |                             |      |         |                                |           |                                                                                    |                                                                                                 |                 | 10                                                                                    |  |
| Continued on next sheet                                                          |               |                             |      |         |                                |           |                                                                                    |                                                                                                 |                 |                                                                                       |  |
| Remarks                                                                          |               |                             |      |         |                                |           |                                                                                    |                                                                                                 |                 |  |  |

|    |               |                             |      |         | <h1>Borehole Log</h1>          |           |                                                                                    | Borehole No.<br><b>PH115</b><br>Sheet 2 of 3                                                                                                |                                                                                       |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|---------|--------------------------------|-----------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      |         | Project No.<br>3319            |           | Co-ords: 415109.98 - 420787.49                                                     |                                                                                                                                             | Hole Type<br>PH                                                                       |
| Location: Huddersfield                                                             |               |                             |      |         | Level: 150.30                  |           | Scale<br>1:50                                                                      |                                                                                                                                             |                                                                                       |
| Client: PS & SP Kershaw                                                            |               |                             |      |         | Dates: 23/09/2020 - 23/09/2020 |           | Logged By<br>RR                                                                    |                                                                                                                                             |                                                                                       |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |         | Depth (m)                      | Level (m) | Legend                                                                             | Stratum Description                                                                                                                         |                                                                                       |
|                                                                                    |               | Depth (m)                   | Type | Results |                                |           |                                                                                    |                                                                                                                                             |                                                                                       |
|  |               |                             |      |         |                                |           |  | Possible COAL. Poor recovery. Wet ground conditions.<br><br>MUDSTONE: Recovered as light grey angular to sub-angular fine to coarse GRAVEL. | 11                                                                                    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             | 12                                                                                    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             | 13                                                                                    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             | 14                                                                                    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             | 15                                                                                    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             | 16                                                                                    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             | 17                                                                                    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             | 18                                                                                    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             | 19                                                                                    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             | 20                                                                                    |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             |                                                                                       |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             |                                                                                       |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             |                                                                                       |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             |                                                                                       |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             |                                                                                       |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             |                                                                                       |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             |                                                                                       |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             |                                                                                       |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             |                                                                                       |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             | Continued on next sheet                                                               |
| Remarks                                                                            |               |                             |      |         |                                |           |                                                                                    |                                                                                                                                             |  |

|    |               |                             |      |         | <h1>Borehole Log</h1>          |           |                                                                                    | Borehole No.<br><b>PH115</b><br>Sheet 3 of 3 |                                                                                       |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|---------|--------------------------------|-----------|------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      |         | Project No.<br>3319            |           | Co-ords: 415109.98 - 420787.49                                                     |                                              | Hole Type<br>PH                                                                       |  |  |  |  |  |  |  |  |
| Location: Huddersfield                                                             |               |                             |      |         | Level: 150.30                  |           | Scale<br>1:50                                                                      |                                              | Logged By<br>RR                                                                       |  |  |  |  |  |  |  |  |
| Client: PS & SP Kershaw                                                            |               |                             |      |         | Dates: 23/09/2020 - 23/09/2020 |           |                                                                                    |                                              |                                                                                       |  |  |  |  |  |  |  |  |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |         | Depth (m)                      | Level (m) | Legend                                                                             | Stratum Description                          |                                                                                       |  |  |  |  |  |  |  |  |
|                                                                                    |               | Depth (m)                   | Type | Results |                                |           |                                                                                    |                                              |                                                                                       |  |  |  |  |  |  |  |  |
|  |               |                             |      |         |                                |           |  |                                              | 21                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 22                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 23                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 24                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 25                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 26                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 27                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 28                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 29                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 30                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | End of borehole at 30.00 m                                                            |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | Remarks                                                                               |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              |  |  |  |  |  |  |  |  |  |

|  |                  |                             |      | <h1>Borehole Log</h1>          |              |                                |        | Borehole No.<br><b>PH116</b><br>Sheet 1 of 3                                          |    |
|----------------------------------------------------------------------------------|------------------|-----------------------------|------|--------------------------------|--------------|--------------------------------|--------|---------------------------------------------------------------------------------------|----|
| Project Name: Villa Farm, Bradley                                                |                  |                             |      | Project No.<br>3319            |              | Co-ords: 415072.39 - 420791.32 |        | Hole Type<br>PH                                                                       |    |
| Location: Huddersfield                                                           |                  |                             |      | Level: 146.95                  |              | Scale<br>1:50                  |        |                                                                                       |    |
| Client: PS & SP Kershaw                                                          |                  |                             |      | Dates: 23/09/2020 - 23/09/2020 |              | Logged By<br>RR                |        |                                                                                       |    |
| Well                                                                             | Water<br>Strikes | Samples and In Situ Testing |      |                                | Depth<br>(m) | Level<br>(m)                   | Legend | Stratum Description                                                                   |    |
|                                                                                  |                  | Depth (m)                   | Type | Results                        |              |                                |        |                                                                                       |    |
|                                                                                  |                  |                             |      |                                |              |                                |        | MADE GROUND                                                                           |    |
|                                                                                  |                  |                             |      |                                |              |                                |        |                                                                                       | 1  |
|                                                                                  |                  |                             |      |                                |              |                                |        |                                                                                       | 2  |
|                                                                                  |                  |                             |      |                                |              |                                |        |                                                                                       | 3  |
|                                                                                  |                  |                             |      |                                |              |                                |        |                                                                                       | 4  |
|                                                                                  |                  |                             |      |                                |              |                                |        |                                                                                       | 5  |
|                                                                                  |                  |                             |      |                                |              |                                |        |                                                                                       | 6  |
|                                                                                  |                  |                             |      |                                |              |                                |        |                                                                                       | 7  |
|                                                                                  |                  |                             |      |                                | 7.80         | 139.15                         |        | Possible VOID. Soft push.                                                             | 8  |
|                                                                                  |                  |                             |      |                                | 8.20         | 138.75                         |        | MUDSTONE: Recovered as light grey angular to sub-angular fine to coarse GRAVEL.       | 9  |
|                                                                                  |                  |                             |      |                                |              |                                |        |                                                                                       | 10 |
| Continued on next sheet                                                          |                  |                             |      |                                |              |                                |        |                                                                                       |    |
| Remarks                                                                          |                  |                             |      |                                |              |                                |        |  |    |

|    |                  |                             |      |         | <h1>Borehole Log</h1>          |              |                                                                                    | Borehole No.<br><b>PH116</b><br>Sheet 2 of 3 |                                                                                       |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------|------------------|-----------------------------|------|---------|--------------------------------|--------------|------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|
| Project Name: Villa Farm, Bradley                                                  |                  |                             |      |         | Project No.<br>3319            |              | Co-ords: 415072.39 - 420791.32                                                     |                                              | Hole Type<br>PH                                                                       |  |  |  |  |  |  |  |  |
| Location: Huddersfield                                                             |                  |                             |      |         | Level: 146.95                  |              | Scale<br>1:50                                                                      |                                              | Logged By<br>RR                                                                       |  |  |  |  |  |  |  |  |
| Client: PS & SP Kershaw                                                            |                  |                             |      |         | Dates: 23/09/2020 - 23/09/2020 |              |                                                                                    |                                              |                                                                                       |  |  |  |  |  |  |  |  |
| Well                                                                               | Water<br>Strikes | Samples and In Situ Testing |      |         | Depth<br>(m)                   | Level<br>(m) | Legend                                                                             | Stratum Description                          |                                                                                       |  |  |  |  |  |  |  |  |
|                                                                                    |                  | Depth (m)                   | Type | Results |                                |              |                                                                                    |                                              |                                                                                       |  |  |  |  |  |  |  |  |
|  |                  |                             |      |         |                                |              |  |                                              | 11                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 12                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 13                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 14                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 15                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 16                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 17                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 18                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 19                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 20                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | Continued on next sheet                                                               |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | Remarks                                                                               |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              |  |  |  |  |  |  |  |  |  |

|       |                  |                             |      |         | <h1>Borehole Log</h1>          |              |                                                                                    | Borehole No.<br><b>PH116</b><br>Sheet 3 of 3 |                 |
|---------------------------------------------------------------------------------------|------------------|-----------------------------|------|---------|--------------------------------|--------------|------------------------------------------------------------------------------------|----------------------------------------------|-----------------|
| Project Name: Villa Farm, Bradley                                                     |                  |                             |      |         | Project No.<br>3319            |              | Co-ords: 415072.39 - 420791.32                                                     |                                              | Hole Type<br>PH |
| Location: Huddersfield                                                                |                  |                             |      |         | Level: 146.95                  |              | Scale<br>1:50                                                                      |                                              |                 |
| Client: PS & SP Kershaw                                                               |                  |                             |      |         | Dates: 23/09/2020 - 23/09/2020 |              | Logged By<br>RR                                                                    |                                              |                 |
| Well                                                                                  | Water<br>Strikes | Samples and In Situ Testing |      |         | Depth<br>(m)                   | Level<br>(m) | Legend                                                                             | Stratum Description                          |                 |
|                                                                                       |                  | Depth (m)                   | Type | Results |                                |              |                                                                                    |                                              |                 |
|     |                  |                             |      |         | 24.00                          | 122.95       |  |                                              | 21              |
|                                                                                       |                  |                             |      |         |                                |              |                                                                                    |                                              | 22              |
|                                                                                       |                  |                             |      |         |                                |              |                                                                                    |                                              | 23              |
|                                                                                       |                  |                             |      |         |                                |              |                                                                                    |                                              | 24              |
|                                                                                       |                  |                             |      |         |                                |              |                                                                                    |                                              | 25              |
|                                                                                       |                  |                             |      |         |                                |              |                                                                                    |                                              | 26              |
|                                                                                       |                  |                             |      |         |                                |              |                                                                                    |                                              | 27              |
|                                                                                       |                  |                             |      |         |                                |              |                                                                                    |                                              | 28              |
|                                                                                       |                  |                             |      |         |                                |              |                                                                                    |                                              | 29              |
|                                                                                       |                  |                             |      |         |                                |              |                                                                                    |                                              | 30              |
| End of borehole at 24.00 m                                                            |                  |                             |      |         |                                |              |                                                                                    |                                              |                 |
| Remarks                                                                               |                  |                             |      |         |                                |              |                                                                                    |                                              |                 |
|  |                  |                             |      |         |                                |              |                                                                                    |                                              |                 |

|                                                                                  |  |  |  |  |                                |  |                                |                                              |                 |
|----------------------------------------------------------------------------------|--|--|--|--|--------------------------------|--|--------------------------------|----------------------------------------------|-----------------|
|  |  |  |  |  | <h1>Borehole Log</h1>          |  |                                | Borehole No.<br><b>PH117</b><br>Sheet 1 of 2 |                 |
| Project Name: Villa Farm, Bradley                                                |  |  |  |  | Project No.<br>3319            |  | Co-ords: 415023.03 - 420785.14 |                                              | Hole Type<br>PH |
| Location: Huddersfield                                                           |  |  |  |  | Level: 145.60                  |  | Scale<br>1:50                  |                                              | Logged By<br>RR |
| Client: PS & SP Kershaw                                                          |  |  |  |  | Dates: 24/09/2020 - 24/09/2020 |  |                                |                                              |                 |

| Well | Water Strikes | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend | Stratum Description                                                             |    |
|------|---------------|-----------------------------|------|---------|-----------|-----------|--------|---------------------------------------------------------------------------------|----|
|      |               | Depth (m)                   | Type | Results |           |           |        |                                                                                 |    |
|      |               |                             |      |         |           |           |        | MADE GROUND                                                                     |    |
|      |               |                             |      |         |           |           |        |                                                                                 | 1  |
|      |               |                             |      |         |           |           |        |                                                                                 | 2  |
|      |               |                             |      |         |           |           |        |                                                                                 | 3  |
|      |               |                             |      |         |           |           |        |                                                                                 | 4  |
|      |               |                             |      |         |           |           |        |                                                                                 | 5  |
|      |               |                             |      |         | 6.30      | 139.30    |        | MUDSTONE: Recovered as light grey angular to sub-angular fine to coarse GRAVEL. | 6  |
|      |               |                             |      |         |           |           |        |                                                                                 | 7  |
|      |               |                             |      |         |           |           |        |                                                                                 | 8  |
|      |               |                             |      |         |           |           |        |                                                                                 | 9  |
|      |               |                             |      |         |           |           |        |                                                                                 | 10 |

Continued on next sheet

Remarks



|    |               |                             |      |         | <h1>Borehole Log</h1>          |           |                                                                                    | Borehole No.<br><b>PH117</b><br>Sheet 2 of 2 |                            |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|---------|--------------------------------|-----------|------------------------------------------------------------------------------------|----------------------------------------------|----------------------------|--|--|--|--|--|--|--|--|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      |         | Project No.<br>3319            |           | Co-ords: 415023.03 - 420785.14                                                     |                                              | Hole Type<br>PH            |  |  |  |  |  |  |  |  |
| Location: Huddersfield                                                             |               |                             |      |         | Level: 145.60                  |           | Scale<br>1:50                                                                      |                                              |                            |  |  |  |  |  |  |  |  |
| Client: PS & SP Kershaw                                                            |               |                             |      |         | Dates: 24/09/2020 - 24/09/2020 |           | Logged By<br>RR                                                                    |                                              |                            |  |  |  |  |  |  |  |  |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |         | Depth (m)                      | Level (m) | Legend                                                                             | Stratum Description                          |                            |  |  |  |  |  |  |  |  |
|                                                                                    |               | Depth (m)                   | Type | Results |                                |           |                                                                                    |                                              |                            |  |  |  |  |  |  |  |  |
|  |               |                             |      |         | 15.00                          | 130.60    |  |                                              | 11                         |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 12                         |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 13                         |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 14                         |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 15                         |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 16                         |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 17                         |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 18                         |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 19                         |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 20                         |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | End of borehole at 15.00 m |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              |                            |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              |                            |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              |                            |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              |                            |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              |                            |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              |                            |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              |                            |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              |                            |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              |                            |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              |                            |  |  |  |  |  |  |  |  |

|         |                                                                                       |
|---------|---------------------------------------------------------------------------------------|
| Remarks |  |
|---------|---------------------------------------------------------------------------------------|

|                                                                                  |  |  |  |  |                                |  |                                |                                              |                 |
|----------------------------------------------------------------------------------|--|--|--|--|--------------------------------|--|--------------------------------|----------------------------------------------|-----------------|
|  |  |  |  |  | <h1>Borehole Log</h1>          |  |                                | Borehole No.<br><b>PH118</b><br>Sheet 1 of 2 |                 |
| Project Name: Villa Farm, Bradley                                                |  |  |  |  | Project No.<br>3319            |  | Co-ords: 415067.32 - 420806.05 |                                              | Hole Type<br>PH |
| Location: Huddersfield                                                           |  |  |  |  | Level: 144.60                  |  | Scale<br>1:50                  |                                              | Logged By<br>RR |
| Client: PS & SP Kershaw                                                          |  |  |  |  | Dates: 24/09/2020 - 24/09/2020 |  |                                |                                              |                 |

| Well | Water Strikes | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend | Stratum Description                                                                |    |
|------|---------------|-----------------------------|------|---------|-----------|-----------|--------|------------------------------------------------------------------------------------|----|
|      |               | Depth (m)                   | Type | Results |           |           |        |                                                                                    |    |
|      |               |                             |      |         | 1.40      | 143.20    |        | MADE GROUND                                                                        | 1  |
|      |               |                             |      |         |           |           |        | MADE GROUND: Recovered as light grey angular to sub-angular fine to coarse GRAVEL. | 2  |
|      |               |                             |      |         | 6.00      | 138.60    |        | COAL                                                                               | 6  |
|      |               |                             |      |         | 6.20      | 138.40    |        | MUDSTONE: Recovered as light grey angular to sub-angular fine to coarse GRAVEL.    | 7  |
|      |               |                             |      |         |           |           |        |                                                                                    | 8  |
|      |               |                             |      |         |           |           |        |                                                                                    | 9  |
|      |               |                             |      |         |           |           |        |                                                                                    | 10 |

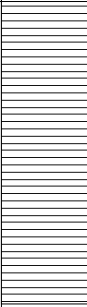
Continued on next sheet

Remarks



|   |                  |                             |      |         | <h1>Borehole Log</h1>          |              |                                                                                   | Borehole No.<br><b>PH118</b><br>Sheet 2 of 2 |                                                                                       |  |  |
|-----------------------------------------------------------------------------------|------------------|-----------------------------|------|---------|--------------------------------|--------------|-----------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------|--|--|
| Project Name: Villa Farm, Bradley                                                 |                  |                             |      |         | Project No.<br>3319            |              | Co-ords: 415067.32 - 420806.05                                                    |                                              | Hole Type<br>PH                                                                       |  |  |
| Location: Huddersfield                                                            |                  |                             |      |         | Level: 144.60                  |              | Scale<br>1:50                                                                     |                                              | Logged By<br>RR                                                                       |  |  |
| Client: PS & SP Kershaw                                                           |                  |                             |      |         | Dates: 24/09/2020 - 24/09/2020 |              |                                                                                   |                                              |                                                                                       |  |  |
| Well                                                                              | Water<br>Strikes | Samples and In Situ Testing |      |         | Depth<br>(m)                   | Level<br>(m) | Legend                                                                            | Stratum Description                          |                                                                                       |  |  |
|                                                                                   |                  | Depth (m)                   | Type | Results |                                |              |                                                                                   |                                              |                                                                                       |  |  |
|  |                  |                             |      |         | 10.50                          | 134.10       |  | End of borehole at 10.50 m                   |                                                                                       |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              |                                                                                       |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 11                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 12                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 13                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 14                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 15                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 16                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 17                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 18                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 19                                                                                    |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 20                                                                                    |  |  |
| Remarks                                                                           |                  |                             |      |         |                                |              |                                                                                   |                                              |  |  |  |

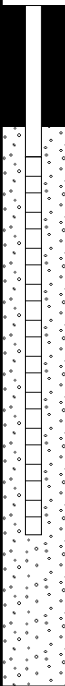
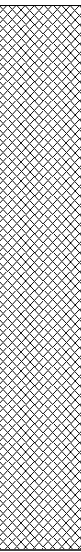
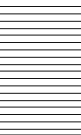
|  |               |                             |      |         | <h1>Borehole Log</h1>          |           |                                | Borehole No.<br><b>PH119</b><br>Sheet 1 of 2                              |                                                                                       |
|----------------------------------------------------------------------------------|---------------|-----------------------------|------|---------|--------------------------------|-----------|--------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                |               |                             |      |         | Project No.<br>3319            |           | Co-ords: 415045.84 - 420790.43 |                                                                           | Hole Type<br>PH                                                                       |
| Location: Huddersfield                                                           |               |                             |      |         | Level: 145.90                  |           | Scale<br>1:50                  |                                                                           |                                                                                       |
| Client: PS & SP Kershaw                                                          |               |                             |      |         | Dates: 24/09/2020 - 24/09/2020 |           | Logged By<br>RR                |                                                                           |                                                                                       |
| Well                                                                             | Water Strikes | Samples and In Situ Testing |      |         | Depth (m)                      | Level (m) | Legend                         | Stratum Description                                                       |                                                                                       |
|                                                                                  |               | Depth (m)                   | Type | Results |                                |           |                                |                                                                           |                                                                                       |
|                                                                                  |               |                             |      |         |                                |           |                                | MADE GROUND                                                               |                                                                                       |
|                                                                                  |               |                             |      |         |                                |           |                                |                                                                           | 1                                                                                     |
|                                                                                  |               |                             |      |         |                                |           |                                |                                                                           | 2                                                                                     |
|                                                                                  |               |                             |      |         |                                |           |                                |                                                                           | 3                                                                                     |
|                                                                                  |               |                             |      |         |                                |           |                                |                                                                           | 4                                                                                     |
|                                                                                  |               |                             |      |         |                                |           |                                |                                                                           | 5                                                                                     |
|                                                                                  |               |                             |      |         |                                |           |                                |                                                                           | 6                                                                                     |
|                                                                                  |               |                             |      |         |                                |           |                                |                                                                           | 7                                                                                     |
|                                                                                  |               |                             |      |         | 8.10                           | 137.80    |                                | MUDSTONE: Recovered as grey angular to sub-angular fine to coarse GRAVEL. | 8                                                                                     |
|                                                                                  |               |                             |      |         |                                |           |                                |                                                                           | 9                                                                                     |
|                                                                                  |               |                             |      |         |                                |           |                                |                                                                           | 10                                                                                    |
| Continued on next sheet                                                          |               |                             |      |         |                                |           |                                |                                                                           |                                                                                       |
| Remarks                                                                          |               |                             |      |         |                                |           |                                |                                                                           |  |

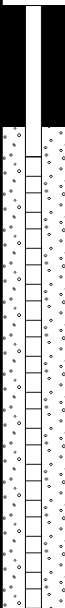
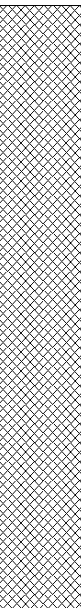
|   |                  |                             |      |         | <h1>Borehole Log</h1>          |              |                                                                                   | Borehole No.<br><b>PH119</b><br>Sheet 2 of 2 |                                                                                       |  |  |  |  |  |  |  |  |
|-----------------------------------------------------------------------------------|------------------|-----------------------------|------|---------|--------------------------------|--------------|-----------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|
| Project Name: Villa Farm, Bradley                                                 |                  |                             |      |         | Project No.<br>3319            |              | Co-ords: 415045.84 - 420790.43                                                    |                                              | Hole Type<br>PH                                                                       |  |  |  |  |  |  |  |  |
| Location: Huddersfield                                                            |                  |                             |      |         | Level: 145.90                  |              | Scale<br>1:50                                                                     |                                              |                                                                                       |  |  |  |  |  |  |  |  |
| Client: PS & SP Kershaw                                                           |                  |                             |      |         | Dates: 24/09/2020 - 24/09/2020 |              | Logged By<br>RR                                                                   |                                              |                                                                                       |  |  |  |  |  |  |  |  |
| Well                                                                              | Water<br>Strikes | Samples and In Situ Testing |      |         | Depth<br>(m)                   | Level<br>(m) | Legend                                                                            | Stratum Description                          |                                                                                       |  |  |  |  |  |  |  |  |
|                                                                                   |                  | Depth (m)                   | Type | Results |                                |              |                                                                                   |                                              |                                                                                       |  |  |  |  |  |  |  |  |
|  |                  |                             |      |         | 12.00                          | 133.90       |  |                                              | 11                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 12                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 13                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 14                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 15                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 16                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 17                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 18                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 19                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | 20                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | End of borehole at 12.00 m                                                            |  |  |  |  |  |  |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              | Remarks                                                                               |  |  |  |  |  |  |  |  |
|                                                                                   |                  |                             |      |         |                                |              |                                                                                   |                                              |  |  |  |  |  |  |  |  |  |

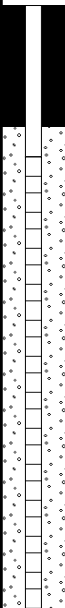
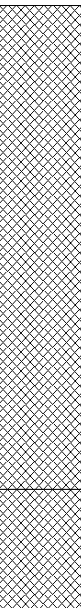
|                                                                                  |  |  |  |  |                                |  |                                |                                              |                 |
|----------------------------------------------------------------------------------|--|--|--|--|--------------------------------|--|--------------------------------|----------------------------------------------|-----------------|
|  |  |  |  |  | <h1>Borehole Log</h1>          |  |                                | Borehole No.<br><b>PH120</b><br>Sheet 1 of 1 |                 |
| Project Name: Villa Farm, Bradley                                                |  |  |  |  | Project No.<br>3319            |  | Co-ords: 415033.66 - 420789.92 |                                              | Hole Type<br>PH |
| Location: Huddersfield                                                           |  |  |  |  | Level: 145.45                  |  | Scale<br>1:50                  |                                              | Logged By<br>RR |
| Client: PS & SP Kershaw                                                          |  |  |  |  | Dates: 24/09/2020 - 24/09/2020 |  |                                |                                              |                 |

| Well | Water Strikes | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend | Stratum Description                                                       |    |
|------|---------------|-----------------------------|------|---------|-----------|-----------|--------|---------------------------------------------------------------------------|----|
|      |               | Depth (m)                   | Type | Results |           |           |        |                                                                           |    |
|      |               |                             |      |         |           |           |        | MADE GROUND                                                               |    |
|      |               |                             |      |         | 6.50      | 138.95    |        |                                                                           | 1  |
|      |               |                             |      |         |           |           |        |                                                                           | 2  |
|      |               |                             |      |         |           |           |        |                                                                           | 3  |
|      |               |                             |      |         |           |           |        |                                                                           | 4  |
|      |               |                             |      |         |           |           |        |                                                                           | 5  |
|      |               |                             |      |         |           |           |        |                                                                           | 6  |
|      |               |                             |      |         |           |           |        | MUDSTONE: Recovered as grey angular to sub-angular fine to coarse GRAVEL. | 7  |
|      |               |                             |      |         |           |           |        |                                                                           | 8  |
|      |               |                             |      |         | 9.00      | 136.45    |        | End of borehole at 9.00 m                                                 | 9  |
|      |               |                             |      |         |           |           |        |                                                                           | 10 |

|         |  |  |  |  |  |  |  |                                                                                       |
|---------|--|--|--|--|--|--|--|---------------------------------------------------------------------------------------|
| Remarks |  |  |  |  |  |  |  |  |
|         |  |  |  |  |  |  |  |                                                                                       |

|    |               |                             |      | <h1>Borehole Log</h1>          |           |                                | Borehole No.<br><b>PH121</b><br>Sheet 1 of 1                                        |                                                                           |                                                                                       |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      | Project No.<br>3319            |           | Co-ords: 415040.46 - 420818.45 |                                                                                     | Hole Type<br>PH                                                           |                                                                                       |
| Location: Huddersfield                                                             |               |                             |      | Level: 141.75                  |           | Scale<br>1:50                  |                                                                                     |                                                                           |                                                                                       |
| Client: PS & SP Kershaw                                                            |               |                             |      | Dates: 24/09/2020 - 24/09/2020 |           | Logged By<br>RR                |                                                                                     |                                                                           |                                                                                       |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                      | Legend                                                                              | Stratum Description                                                       |                                                                                       |
|                                                                                    |               | Depth (m)                   | Type | Results                        |           |                                |                                                                                     |                                                                           |                                                                                       |
|  |               |                             |      |                                |           |                                |   | MADE GROUND                                                               | 1                                                                                     |
|                                                                                    |               |                             |      |                                | 3.60      | 138.15                         |  | MUDSTONE: Recovered as grey angular to sub-angular fine to coarse GRAVEL. | 4                                                                                     |
|                                                                                    |               |                             |      |                                | 4.50      | 137.25                         |  | End of borehole at 4.50 m                                                 | 5                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                           | 6                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                           | 7                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                           | 8                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                           | 9                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                     |                                                                           | 10                                                                                    |
| Remarks                                                                            |               |                             |      |                                |           |                                |                                                                                     |                                                                           |  |

|                                                    |               |                             |      | <h1>Borehole Log</h1>          |           |                                | Borehole No.<br><b>PH122</b><br>Sheet 1 of 1                                       |                     |                                      |
|------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------|------------------------------------------------------------------------------------|---------------------|--------------------------------------|
| Project Name: Villa Farm, Bradley                                                                                                  |               |                             |      | Project No.<br>3319            |           | Co-ords: 415017.18 - 420813.67 |                                                                                    | Hole Type<br>PH     |                                      |
| Location: Huddersfield                                                                                                             |               |                             |      | Level: 141.40                  |           | Scale<br>1:50                  |                                                                                    |                     |                                      |
| Client: PS & SP Kershaw                                                                                                            |               |                             |      | Dates: 24/09/2020 - 24/09/2020 |           | Logged By<br>RR                |                                                                                    |                     |                                      |
| Well                                                                                                                               | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                      | Legend                                                                             | Stratum Description |                                      |
|                                                                                                                                    |               | Depth (m)                   | Type | Results                        |           |                                |                                                                                    |                     |                                      |
|                                                  |               |                             |      |                                |           |                                |  | MADE GROUND         |                                      |
|                                                                                                                                    |               |                             |      |                                | 4.00      | 137.40                         |                                                                                    |                     | <div>End of borehole at 4.00 m</div> |
| <div> <div>Remarks</div> <div>  </div> </div> |               |                             |      |                                |           |                                |                                                                                    |                     |                                      |

|    |               |                             |      | <h1>Borehole Log</h1>          |           |                                |                                                                                    | Borehole No.<br><b>PH123</b><br>Sheet 1 of 1                                            |                                                                                       |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      | Project No.<br>3319            |           | Co-ords: 414969.98 - 420801.33 |                                                                                    | Hole Type<br>PH                                                                         |                                                                                       |
| Location: Huddersfield                                                             |               |                             |      | Level: 141.65                  |           | Scale<br>1:50                  |                                                                                    |                                                                                         |                                                                                       |
| Client: PS & SP Kershaw                                                            |               |                             |      | Dates: 25/09/2020 - 25/09/2020 |           | Logged By<br>RR                |                                                                                    |                                                                                         |                                                                                       |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                      | Legend                                                                             | Stratum Description                                                                     |                                                                                       |
|                                                                                    |               | Depth (m)                   | Type | Results                        |           |                                |                                                                                    |                                                                                         |                                                                                       |
|  |               |                             |      |                                |           |                                |  | MADE GROUND                                                                             | 1                                                                                     |
|                                                                                    |               |                             |      |                                | 3.20      | 138.45                         |                                                                                    | MADE GROUND (MUDSTONE): Recovered as grey angular to sub-angular fine to coarse GRAVEL. | 3                                                                                     |
|                                                                                    |               |                             |      |                                | 4.00      | 137.65                         |                                                                                    | End of borehole at 4.00 m                                                               | 4                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 5                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 6                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 7                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 8                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 9                                                                                     |
|                                                                                    |               |                             |      |                                |           |                                |                                                                                    |                                                                                         | 10                                                                                    |
| Remarks                                                                            |               |                             |      |                                |           |                                |                                                                                    |                                                                                         |  |

|                                                                                  |  |  |  |  |                                |  |                                |                                              |                 |
|----------------------------------------------------------------------------------|--|--|--|--|--------------------------------|--|--------------------------------|----------------------------------------------|-----------------|
|  |  |  |  |  | <h1>Borehole Log</h1>          |  |                                | Borehole No.<br><b>PH124</b><br>Sheet 1 of 3 |                 |
| Project Name: Villa Farm, Bradley                                                |  |  |  |  | Project No.<br>3319            |  | Co-ords: 414981.41 - 420770.28 |                                              | Hole Type<br>PH |
| Location: Huddersfield                                                           |  |  |  |  | Level: 145.45                  |  | Scale<br>1:50                  |                                              | Logged By<br>RR |
| Client: PS & SP Kershaw                                                          |  |  |  |  | Dates: 25/09/2020 - 25/09/2020 |  |                                |                                              |                 |

| Well | Water Strikes | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend | Stratum Description                                                       |    |
|------|---------------|-----------------------------|------|---------|-----------|-----------|--------|---------------------------------------------------------------------------|----|
|      |               | Depth (m)                   | Type | Results |           |           |        |                                                                           |    |
|      |               |                             |      |         |           |           |        | MADE GROUND                                                               |    |
|      |               |                             |      |         |           |           |        |                                                                           | 1  |
|      |               |                             |      |         |           |           |        |                                                                           | 2  |
|      |               |                             |      |         |           |           |        |                                                                           | 3  |
|      |               |                             |      |         | 3.90      | 141.55    |        | MUDSTONE: Recovered as grey angular to sub-angular fine to coarse GRAVEL. | 4  |
|      |               |                             |      |         |           |           |        |                                                                           | 5  |
|      |               |                             |      |         |           |           |        |                                                                           | 6  |
|      |               |                             |      |         |           |           |        |                                                                           | 7  |
|      |               |                             |      |         |           |           |        |                                                                           | 8  |
|      |               |                             |      |         |           |           |        |                                                                           | 9  |
|      |               |                             |      |         |           |           |        |                                                                           | 10 |

Continued on next sheet

Remarks



|    |               |                             |      |         | <h1>Borehole Log</h1>          |           |                                                                                    | Borehole No.<br><b>PH124</b><br>Sheet 2 of 3 |                                                                                       |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|---------|--------------------------------|-----------|------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      |         | Project No.<br>3319            |           | Co-ords: 414981.41 - 420770.28                                                     |                                              | Hole Type<br>PH                                                                       |  |  |  |  |  |  |  |  |
| Location: Huddersfield                                                             |               |                             |      |         | Level: 145.45                  |           | Scale<br>1:50                                                                      |                                              | Logged By<br>RR                                                                       |  |  |  |  |  |  |  |  |
| Client: PS & SP Kershaw                                                            |               |                             |      |         | Dates: 25/09/2020 - 25/09/2020 |           |                                                                                    |                                              |                                                                                       |  |  |  |  |  |  |  |  |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |         | Depth (m)                      | Level (m) | Legend                                                                             | Stratum Description                          |                                                                                       |  |  |  |  |  |  |  |  |
|                                                                                    |               | Depth (m)                   | Type | Results |                                |           |                                                                                    |                                              |                                                                                       |  |  |  |  |  |  |  |  |
|  |               |                             |      |         |                                |           |  |                                              | 11                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 12                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 13                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 14                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 15                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 16                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 17                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 18                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 19                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 20                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | Continued on next sheet                                                               |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | Remarks                                                                               |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              |  |  |  |  |  |  |  |  |  |

|    |               |                             |      |         | <h1>Borehole Log</h1>          |           |                                                                                    | Borehole No.<br><b>PH124</b><br>Sheet 3 of 3 |                                                                                       |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|---------|--------------------------------|-----------|------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|
| Project Name: Villa Farm, Bradley                                                  |               |                             |      |         | Project No.<br>3319            |           | Co-ords: 414981.41 - 420770.28                                                     |                                              | Hole Type<br>PH                                                                       |  |  |  |  |  |  |  |  |
| Location: Huddersfield                                                             |               |                             |      |         | Level: 145.45                  |           | Scale<br>1:50                                                                      |                                              | Logged By<br>RR                                                                       |  |  |  |  |  |  |  |  |
| Client: PS & SP Kershaw                                                            |               |                             |      |         | Dates: 25/09/2020 - 25/09/2020 |           |                                                                                    |                                              |                                                                                       |  |  |  |  |  |  |  |  |
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |         | Depth (m)                      | Level (m) | Legend                                                                             | Stratum Description                          |                                                                                       |  |  |  |  |  |  |  |  |
|                                                                                    |               | Depth (m)                   | Type | Results |                                |           |                                                                                    |                                              |                                                                                       |  |  |  |  |  |  |  |  |
|  |               |                             |      |         |                                |           |  |                                              | 21                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 22                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 23                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 24                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 25                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 26                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 27                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 28                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 29                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | 30                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | End of borehole at 30.00 m                                                            |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              | Remarks                                                                               |  |  |  |  |  |  |  |  |
|                                                                                    |               |                             |      |         |                                |           |                                                                                    |                                              |  |  |  |  |  |  |  |  |  |

|                                                                                  |  |  |  |  |                                |  |                                |                                              |                 |
|----------------------------------------------------------------------------------|--|--|--|--|--------------------------------|--|--------------------------------|----------------------------------------------|-----------------|
|  |  |  |  |  | <h1>Borehole Log</h1>          |  |                                | Borehole No.<br><b>PH125</b><br>Sheet 1 of 2 |                 |
| Project Name: Villa Farm, Bradley                                                |  |  |  |  | Project No.<br>3319            |  | Co-ords: 414926.55 - 420776.05 |                                              | Hole Type<br>PH |
| Location: Huddersfield                                                           |  |  |  |  | Level: 142.30                  |  | Scale<br>1:50                  |                                              | Logged By<br>RR |
| Client: PS & SP Kershaw                                                          |  |  |  |  | Dates: 25/09/2020 - 25/09/2020 |  |                                |                                              |                 |

| Well | Water Strikes | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend | Stratum Description                                                       |  |
|------|---------------|-----------------------------|------|---------|-----------|-----------|--------|---------------------------------------------------------------------------|--|
|      |               | Depth (m)                   | Type | Results |           |           |        |                                                                           |  |
|      |               |                             |      |         |           |           |        | MADE GROUND                                                               |  |
|      |               |                             |      |         | 5.50      | 136.80    |        | MUDSTONE: Recovered as grey angular to sub-angular fine to coarse GRAVEL. |  |

Remarks

Continued on next sheet

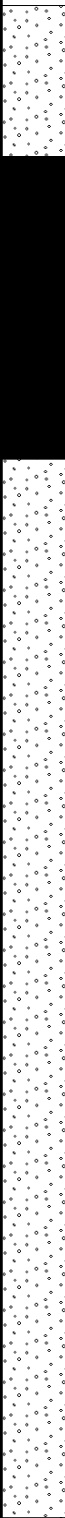
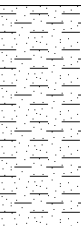
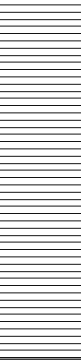
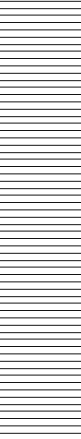
10



|    |                  |                             |      |         | <h1>Borehole Log</h1>          |              |                                                                                    | Borehole No.<br><b>PH125</b><br>Sheet 2 of 2 |                                                                                       |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------|------------------|-----------------------------|------|---------|--------------------------------|--------------|------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|
| Project Name: Villa Farm, Bradley                                                  |                  |                             |      |         | Project No.<br>3319            |              | Co-ords: 414926.55 - 420776.05                                                     |                                              | Hole Type<br>PH                                                                       |  |  |  |  |  |  |  |  |
| Location: Huddersfield                                                             |                  |                             |      |         | Level: 142.30                  |              | Scale<br>1:50                                                                      |                                              |                                                                                       |  |  |  |  |  |  |  |  |
| Client: PS & SP Kershaw                                                            |                  |                             |      |         | Dates: 25/09/2020 - 25/09/2020 |              | Logged By<br>RR                                                                    |                                              |                                                                                       |  |  |  |  |  |  |  |  |
| Well                                                                               | Water<br>Strikes | Samples and In Situ Testing |      |         | Depth<br>(m)                   | Level<br>(m) | Legend                                                                             | Stratum Description                          |                                                                                       |  |  |  |  |  |  |  |  |
|                                                                                    |                  | Depth (m)                   | Type | Results |                                |              |                                                                                    |                                              |                                                                                       |  |  |  |  |  |  |  |  |
|  |                  |                             |      |         | 15.00                          | 127.30       |  |                                              | 11                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 12                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 13                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 14                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 15                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 16                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 17                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 18                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 19                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | 20                                                                                    |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | End of borehole at 15.00 m                                                            |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              | Remarks                                                                               |  |  |  |  |  |  |  |  |
|                                                                                    |                  |                             |      |         |                                |              |                                                                                    |                                              |  |  |  |  |  |  |  |  |  |

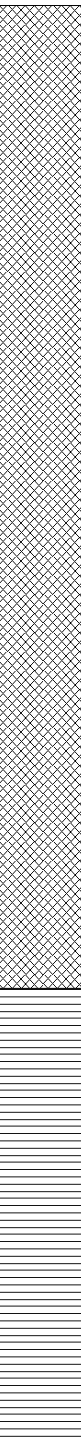
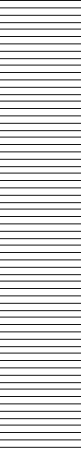
|                                                                                                                               |               |                             |      | <h1>Borehole Log</h1>          |           |                                                        | Borehole No.<br><b>PH201</b><br>Sheet 1 of 2                      |                                                                                       |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------|--|
| Project Name: Villa Farm, Bradley                                                                                                                                                                             |               |                             |      | Project No.<br>3319            |           | Co-ords: 415120.00 - 420820.02                         |                                                                   | Hole Type<br>PH                                                                       |  |
| Location: Huddersfield                                                                                                                                                                                        |               |                             |      | Level: 144.30                  |           | Scale<br>1:50                                          |                                                                   |                                                                                       |  |
| Client: PS & SP Kershaw                                                                                                                                                                                       |               |                             |      | Dates: 01/07/2021 - 01/07/2021 |           | Logged By<br>CC                                        |                                                                   |                                                                                       |  |
| Well                                                                                                                                                                                                          | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                                              | Legend                                                            | Stratum Description                                                                   |  |
|                                                                                                                                                                                                               |               | Depth (m)                   | Type | Results                        |           |                                                        |                                                                   |                                                                                       |  |
|                                                                                                                             |               |                             |      |                                |           |                                                        | OVERBURDEN.                                                       | 1                                                                                     |  |
|                                                                                                                                                                                                               |               |                             |      | 1.80                           | 142.50    |                                                        | Light greyish brown MUDSTONE.<br>(PENNINE LOWER COAL MEASURES)    | 2                                                                                     |  |
|                                                                                                                                                                                                               |               |                             |      |                                |           |                                                        |                                                                   | 3                                                                                     |  |
|                                                                                                                                                                                                               |               |                             |      | 4.50                           | 139.80    |                                                        | Light grey MUDSTONE.<br>(PENNINE LOWER COAL MEASURES)             | 4                                                                                     |  |
|                                                                                                                                                                                                               |               |                             |      |                                |           |                                                        |                                                                   | 5                                                                                     |  |
|                                                                                                                                                                                                               |               |                             |      |                                |           |                                                        |                                                                   | 6                                                                                     |  |
|                                                                                                                                                                                                               |               |                             |      |                                |           |                                                        |                                                                   | 7                                                                                     |  |
|                                                                                                                                                                                                               |               |                             |      | 8.20                           | 136.10    |                                                        | Dark grey carbonaceous MUDSTONE.<br>(PENNINE LOWER COAL MEASURES) | 8                                                                                     |  |
|                                                                                                                                                                                                               |               |                             |      | 8.40                           | 135.90    |                                                        | Black COAL.<br>(BETTER BED COAL)                                  | 9                                                                                     |  |
|                                                                                                                                                                                                               |               |                             |      | 8.70                           | 135.60    |                                                        | Dark grey carbonaceous MUDSTONE.<br>(PENNINE LOWER COAL MEASURES) | 9                                                                                     |  |
|                                                                                                                                                                                                               |               |                             | 9.50 | 134.80                         |           | Light grey SILTSTONE.<br>(PENNINE LOWER COAL MEASURES) | 10                                                                |                                                                                       |  |
| Continued on next sheet                                                                                                                                                                                       |               |                             |      |                                |           |                                                        |                                                                   |                                                                                       |  |
| Remarks<br>1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion. |               |                             |      |                                |           |                                                        |                                                                   |  |  |

|                                                                                                                               |               |                             |      |         | <h1>Borehole Log</h1>          |           |                                                                                   | Borehole No.<br><b>PH201</b><br>Sheet 2 of 2 |                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|------|---------|--------------------------------|-----------|-----------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                                                                                                                                             |               |                             |      |         | Project No.<br>3319            |           | Co-ords: 415120.00 - 420820.02                                                    |                                              | Hole Type<br>PH                                                                       |
| Location: Huddersfield                                                                                                                                                                                        |               |                             |      |         | Level: 144.30                  |           | Scale<br>1:50                                                                     |                                              |                                                                                       |
| Client: PS & SP Kershaw                                                                                                                                                                                       |               |                             |      |         | Dates: 01/07/2021 - 01/07/2021 |           | Logged By<br>CC                                                                   |                                              |                                                                                       |
| Well                                                                                                                                                                                                          | Water Strikes | Samples and In Situ Testing |      |         | Depth (m)                      | Level (m) | Legend                                                                            | Stratum Description                          |                                                                                       |
|                                                                                                                                                                                                               |               | Depth (m)                   | Type | Results |                                |           |                                                                                   |                                              |                                                                                       |
|                                                                                                                              |               |                             |      |         |                                |           |  |                                              | 11                                                                                    |
|                                                                                                                                                                                                               |               |                             |      |         | 12.00                          | 132.30    |                                                                                   |                                              |                                                                                       |
|                                                                                                                                                                                                               |               |                             |      |         |                                |           |                                                                                   | End of borehole at 12.00 m                   | 13                                                                                    |
|                                                                                                                                                                                                               |               |                             |      |         |                                |           |                                                                                   |                                              | 14                                                                                    |
|                                                                                                                                                                                                               |               |                             |      |         |                                |           |                                                                                   |                                              | 15                                                                                    |
|                                                                                                                                                                                                               |               |                             |      |         |                                |           |                                                                                   |                                              | 16                                                                                    |
|                                                                                                                                                                                                               |               |                             |      |         |                                |           |                                                                                   |                                              | 17                                                                                    |
|                                                                                                                                                                                                               |               |                             |      |         |                                |           |                                                                                   |                                              | 18                                                                                    |
|                                                                                                                                                                                                               |               |                             |      |         |                                |           |                                                                                   |                                              | 19                                                                                    |
|                                                                                                                                                                                                               |               |                             |      |         |                                |           |                                                                                   |                                              | 20                                                                                    |
| Remarks<br>1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion. |               |                             |      |         |                                |           |                                                                                   |                                              |  |

|                                                                                                                                                                              |               |                             |      |         | <h1>Borehole Log</h1>          |           |                                                                                     | Borehole No.<br><b>PH202</b><br>Sheet 1 of 2                      |                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|------|---------|--------------------------------|-----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                                                                                                                                                                                            |               |                             |      |         | Project No.<br>3319            |           | Co-ords: 415136.03 - 420838.02                                                      |                                                                   | Hole Type<br>PH                                                                       |
| Location: Huddersfield                                                                                                                                                                                                                                       |               |                             |      |         | Level: 141.95                  |           | Scale<br>1:50                                                                       |                                                                   |                                                                                       |
| Client: PS & SP Kershaw                                                                                                                                                                                                                                      |               |                             |      |         | Dates: 01/07/2021 - 01/07/2021 |           | Logged By<br>CC                                                                     |                                                                   |                                                                                       |
| Well                                                                                                                                                                                                                                                         | Water Strikes | Samples and In Situ Testing |      |         | Depth (m)                      | Level (m) | Legend                                                                              | Stratum Description                                               |                                                                                       |
|                                                                                                                                                                                                                                                              |               | Depth (m)                   | Type | Results |                                |           |                                                                                     |                                                                   |                                                                                       |
|                                                                                                                                                                            |               |                             |      |         | 1.50                           | 140.45    |    | OVERBURDEN.                                                       | 1                                                                                     |
|                                                                                                                                                                                                                                                              |               |                             |      |         |                                |           |   | Light greyish brown MUDSTONE.<br>(PENNINE LOWER COAL MEASURES)    | 2                                                                                     |
|                                                                                                                                                                                                                                                              |               |                             |      |         | 3.90                           | 138.05    |  | Light grey MUDSTONE.<br>(PENNINE LOWER COAL MEASURES)             | 4                                                                                     |
|                                                                                                                                                                                                                                                              |               |                             |      |         |                                |           |                                                                                     |                                                                   | 5                                                                                     |
|                                                                                                                                                                                                                                                              |               |                             |      |         |                                |           |                                                                                     |                                                                   | 6                                                                                     |
|                                                                                                                                                                                                                                                              |               |                             |      |         | 6.90                           | 135.05    |  | Dark grey carbonaceous MUDSTONE.<br>(PENNINE LOWER COAL MEASURES) | 7                                                                                     |
|                                                                                                                                                                                                                                                              |               |                             |      |         | 7.20                           | 134.75    |  | Very soft push. Loss of flush.<br>(PENNINE LOWER COAL MEASURES)   |                                                                                       |
|                                                                                                                                                                                                                                                              |               |                             |      |         | 7.60                           | 134.35    |  | Between 7.2m and 7.6m depth, evidence of shallow coal workings.   |                                                                                       |
|                                                                                                                                                                                                                                                              |               |                             |      |         |                                |           |  | Solid ground, no returns.<br>(PENNINE LOWER COAL MEASURES)        | 8                                                                                     |
|                                                                                                                                                                                                                                                              |               |                             |      |         |                                |           |                                                                                     |                                                                   | 9                                                                                     |
| Continued on next sheet                                                                                                                                                                                                                                      |               |                             |      |         |                                |           |                                                                                     | 10                                                                |                                                                                       |
| Remarks<br>1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Flush returns were lost from 7.2m to 10.5m. 4. Exploratory hole surveyed in (level and co-ordinates) on completion. |               |                             |      |         |                                |           |                                                                                     |                                                                   |  |

|                                                                                                                                                                              |               |                             |      |         | <h1>Borehole Log</h1>          |           |                                                                                   | Borehole No.<br><b>PH202</b><br>Sheet 2 of 2 |                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|------|---------|--------------------------------|-----------|-----------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                                                                                                                                                                                            |               |                             |      |         | Project No.<br>3319            |           | Co-ords: 415136.03 - 420838.02                                                    |                                              | Hole Type<br>PH                                                                       |
| Location: Huddersfield                                                                                                                                                                                                                                       |               |                             |      |         | Level: 141.95                  |           | Scale<br>1:50                                                                     |                                              |                                                                                       |
| Client: PS & SP Kershaw                                                                                                                                                                                                                                      |               |                             |      |         | Dates: 01/07/2021 - 01/07/2021 |           | Logged By<br>CC                                                                   |                                              |                                                                                       |
| Well                                                                                                                                                                                                                                                         | Water Strikes | Samples and In Situ Testing |      |         | Depth (m)                      | Level (m) | Legend                                                                            | Stratum Description                          |                                                                                       |
|                                                                                                                                                                                                                                                              |               | Depth (m)                   | Type | Results |                                |           |                                                                                   |                                              |                                                                                       |
|                                                                                                                                                                             |               |                             |      |         | 10.50                          | 131.45    |  | End of borehole at 10.50 m                   | 11                                                                                    |
|                                                                                                                                                                                                                                                              |               |                             |      |         |                                |           |                                                                                   |                                              | 12                                                                                    |
|                                                                                                                                                                                                                                                              |               |                             |      |         |                                |           |                                                                                   |                                              | 13                                                                                    |
|                                                                                                                                                                                                                                                              |               |                             |      |         |                                |           |                                                                                   |                                              | 14                                                                                    |
|                                                                                                                                                                                                                                                              |               |                             |      |         |                                |           |                                                                                   |                                              | 15                                                                                    |
|                                                                                                                                                                                                                                                              |               |                             |      |         |                                |           |                                                                                   |                                              | 16                                                                                    |
|                                                                                                                                                                                                                                                              |               |                             |      |         |                                |           |                                                                                   |                                              | 17                                                                                    |
|                                                                                                                                                                                                                                                              |               |                             |      |         |                                |           |                                                                                   |                                              | 18                                                                                    |
|                                                                                                                                                                                                                                                              |               |                             |      |         |                                |           |                                                                                   |                                              | 19                                                                                    |
|                                                                                                                                                                                                                                                              |               |                             |      |         |                                |           |                                                                                   |                                              | 20                                                                                    |
| Remarks<br>1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Flush returns were lost from 7.2m to 10.5m. 4. Exploratory hole surveyed in (level and co-ordinates) on completion. |               |                             |      |         |                                |           |                                                                                   |                                              |  |

|                                                                                  |  |  |  |  |                                |  |                                |                                              |                 |
|----------------------------------------------------------------------------------|--|--|--|--|--------------------------------|--|--------------------------------|----------------------------------------------|-----------------|
|  |  |  |  |  | <h1>Borehole Log</h1>          |  |                                | Borehole No.<br><b>PH203</b><br>Sheet 1 of 1 |                 |
| Project Name: Villa Farm, Bradley                                                |  |  |  |  | Project No.<br>3319            |  | Co-ords: 415100.98 - 420829.01 |                                              | Hole Type<br>PH |
| Location: Huddersfield                                                           |  |  |  |  | Level: 142.25                  |  | Scale<br>1:50                  |                                              |                 |
| Client: PS & SP Kershaw                                                          |  |  |  |  | Dates: 01/07/2021 - 01/07/2021 |  | Logged By<br>CC                |                                              |                 |

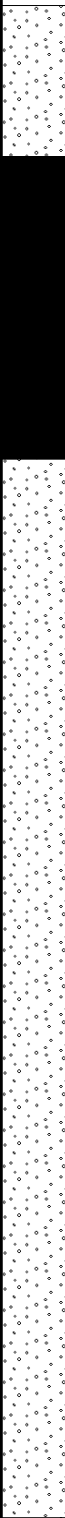
| Well                                                                               | Water Strikes | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                                                                              | Stratum Description                            |    |
|------------------------------------------------------------------------------------|---------------|-----------------------------|------|---------|-----------|-----------|-------------------------------------------------------------------------------------|------------------------------------------------|----|
|                                                                                    |               | Depth (m)                   | Type | Results |           |           |                                                                                     |                                                |    |
|  |               |                             |      |         |           |           |   | MADE GROUND. Soft push, no flush.              | 1  |
|                                                                                    |               |                             |      |         |           |           |                                                                                     |                                                | 2  |
|                                                                                    |               |                             |      |         |           |           |                                                                                     |                                                | 3  |
|                                                                                    |               |                             |      |         |           |           |                                                                                     |                                                | 4  |
|                                                                                    |               |                             |      |         |           |           |                                                                                     |                                                | 5  |
|                                                                                    |               |                             |      |         |           |           |                                                                                     |                                                | 6  |
|                                                                                    |               |                             |      |         | 6.50      | 135.75    |  | Solid ground.<br>(PENNINE LOWER COAL MEASURES) | 7  |
|                                                                                    |               |                             |      |         |           |           |                                                                                     |                                                | 8  |
|                                                                                    |               |                             |      |         |           |           |                                                                                     |                                                | 9  |
|                                                                                    |               |                             |      |         | 9.50      | 132.75    |                                                                                     | End of borehole at 9.50 m                      | 10 |

Remarks  
 1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Flush returns were lost from 0.0m to 9.5m. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.



| LITHOS CONSULTING                 |               |                             |      |         | Borehole Log                   |                           |                                                                                 | Borehole No.<br><b>PH204</b><br>Sheet 1 of 1 |                 |
|-----------------------------------|---------------|-----------------------------|------|---------|--------------------------------|---------------------------|---------------------------------------------------------------------------------|----------------------------------------------|-----------------|
| Project Name: Villa Farm, Bradley |               |                             |      |         | Project No.<br>3319            |                           | Co-ords: 415115.00 - 421841.00                                                  |                                              | Hole Type<br>PH |
| Location: Huddersfield            |               |                             |      |         | Level:                         |                           | Scale<br>1:50                                                                   |                                              | Logged By<br>CC |
| Client: PS & SP Kershaw           |               |                             |      |         | Dates: 01/07/2021 - 01/07/2021 |                           |                                                                                 |                                              |                 |
| Well                              | Water Strikes | Samples and In Situ Testing |      |         | Depth (m)                      | Level (m)                 | Legend                                                                          | Stratum Description                          |                 |
|                                   |               | Depth (m)                   | Type | Results |                                |                           |                                                                                 |                                              |                 |
|                                   |               |                             |      |         |                                |                           | OVERBURDEN.                                                                     | 1                                            |                 |
|                                   |               |                             |      |         | 2.00                           |                           | Light greyish brown MUDSTONE.<br>(PENNINE LOWER COAL MEASURES)                  | 2                                            |                 |
|                                   |               |                             |      |         | 3.00                           |                           | Light grey MUDSTONE.<br>(PENNINE LOWER COAL MEASURES)                           | 3                                            |                 |
|                                   |               |                             |      |         |                                |                           |                                                                                 | 4                                            |                 |
|                                   |               |                             |      |         |                                |                           |                                                                                 | 5                                            |                 |
|                                   |               |                             |      |         | 5.50                           |                           | Dark grey carbonaceous MUDSTONE.<br>(PENNINE LOWER COAL MEASURES)               |                                              |                 |
|                                   |               |                             |      |         | 5.80                           |                           | Soft push, no returns.<br>(PENNINE LOWER COAL MEASURES)                         | 6                                            |                 |
|                                   |               |                             |      |         | 6.10                           |                           | Between 5.8m and 6.1m depth, evidence of shallow coal workings encountered.     |                                              |                 |
|                                   |               |                             |      |         |                                |                           | Dark grey carbonaceous MUDSTONE. Poor returns.<br>(PENNINE LOWER COAL MEASURES) | 7                                            |                 |
|                                   |               |                             |      |         | 7.00                           |                           | Light grey SILTSTONE.<br>(PENNINE LOWER COAL MEASURES)                          | 8                                            |                 |
|                                   |               |                             |      | 9.00    |                                | End of borehole at 9.00 m | 9                                                                               |                                              |                 |
|                                   |               |                             |      |         |                                |                           |                                                                                 | 10                                           |                 |

Remarks  
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Flush returns were lost from 5.8m to 6.1m. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

|                                                                                                                                                                             |               |                             |      | <h1>Borehole Log</h1>          |           |                                |                                                        | Borehole No.<br><b>PH205</b><br>Sheet 1 of 2                       |                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|--------------------------------|--------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: Villa Farm, Bradley                                                                                                                                                                                                                           |               |                             |      | Project No.<br>3319            |           | Co-ords: 415121.00 - 420833.00 |                                                        | Hole Type<br>PH                                                    |                                                                                       |
| Location: Huddersfield                                                                                                                                                                                                                                      |               |                             |      | Level:                         |           | Scale<br>1:50                  |                                                        |                                                                    |                                                                                       |
| Client: PS & SP Kershaw                                                                                                                                                                                                                                     |               |                             |      | Dates: 01/07/2021 - 01/07/2021 |           | Logged By<br>CC                |                                                        |                                                                    |                                                                                       |
| Well                                                                                                                                                                                                                                                        | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)                      | Legend                                                 | Stratum Description                                                |                                                                                       |
|                                                                                                                                                                                                                                                             |               | Depth (m)                   | Type | Results                        |           |                                |                                                        |                                                                    |                                                                                       |
|                                                                                                                                                                           |               |                             |      |                                |           |                                |                                                        | OVERBURDEN.                                                        | 1                                                                                     |
|                                                                                                                                                                                                                                                             |               |                             |      |                                | 2.00      |                                |                                                        | Light greyish brown MUDSTONE.<br>(PENNINE LOWER COAL MEASURES)     | 2                                                                                     |
|                                                                                                                                                                                                                                                             |               |                             |      |                                |           |                                |                                                        |                                                                    | 3                                                                                     |
|                                                                                                                                                                                                                                                             |               |                             |      |                                | 4.00      |                                |                                                        | Light grey MUDSTONE.<br>(PENNINE LOWER COAL MEASURES)              | 4                                                                                     |
|                                                                                                                                                                                                                                                             |               |                             |      |                                |           |                                |                                                        |                                                                    | 5                                                                                     |
|                                                                                                                                                                                                                                                             |               |                             |      |                                |           |                                |                                                        |                                                                    | 6                                                                                     |
|                                                                                                                                                                                                                                                             |               |                             |      |                                | 7.00      |                                |                                                        | Dark grey carbonaceous MUDSTONE.<br>(PENNINE LOWER COAL MEASURES)  | 7                                                                                     |
|                                                                                                                                                                                                                                                             |               |                             |      |                                | 7.30      |                                |                                                        | Soft push, no returns.<br>(PENNINE LOWER COAL MEASURES)            |                                                                                       |
|                                                                                                                                                                                                                                                             |               |                             |      |                                | 7.70      |                                |                                                        | Between 7.3m to 7.7m depth, evidence of shallow coal workings.     |                                                                                       |
|                                                                                                                                                                                                                                                             |               |                             |      |                                |           |                                |                                                        | Dark grey MUDSTONE. Poor returns.<br>(PENNINE LOWER COAL MEASURES) | 8                                                                                     |
|                                                                                                                                                                                                                                                             |               |                             |      | 8.50                           |           |                                | Light grey SILTSTONE.<br>(PENNINE LOWER COAL MEASURES) | 9                                                                  |                                                                                       |
|                                                                                                                                                                                                                                                             |               |                             |      |                                |           |                                |                                                        | Continued on next sheet                                            | 10                                                                                    |
| Remarks<br>1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Flush returns were lost from 7.3m to 7.7m. 4. Exploratory hole surveyed in (level and co-ordinates) on completion. |               |                             |      |                                |           |                                |                                                        |                                                                    |  |



Borehole No.

# PH205

Sheet 2 of 2

Project Name: Villa Farm, Bradley

|             |
|-------------|
| Project No. |
| 3319        |

Co-ords: 415121.00 - 420833.00

Hole Type  
PH

Location: Huddersfield

Level:

Scale  
1:50

Client: PS & SP Kershaw

Dates: 01/07/2021 - 01/07/2021

Logged By  
CC

[illegible]

|         |
|---------|
| Remarks |
|---------|

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Flush returns were lost from 7.3m to 7.7m. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.





## Certificate of Analysis

*Certificate Number* 21-14190

*Issued:* 14-Jul-21

*Client* Lithos Consulting Ltd  
Parkhill  
Walton Rd  
Wetherby  
LS22 5DZ

*Our Reference* 21-14190

*Client Reference* 3319

*Order No* PO17776

*Contract Title* Bradley Villa Farm, Huddersfield

*Description* 9 Soil samples.

*Date Received* 07-Jul-21

*Date Started* 07-Jul-21

*Date Completed* 14-Jul-21

*Test Procedures* Identified by prefix DETSn (details on request).

*Notes* Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

*Approved By*

Adam Fenwick  
Contracts Manager



# Summary of Chemical Analysis

## Soil Samples

Our Ref 21-14190

Client Ref 3319

Contract Title Bradley Villa Farm, Huddersfield

| Lab No        | 1871793    | 1871794    | 1871795    | 1871796    | 1871797    | 1871798    | 1871799    |
|---------------|------------|------------|------------|------------|------------|------------|------------|
| Sample ID     | TP201      | TP202      | TP204      | TP203      | TP205      | TP201      | TP202      |
| Depth         | 0.20       | 0.10       | 0.20       | 0.20       | 0.20       | 0.60       | 1.80       |
| Other ID      |            |            |            |            |            |            |            |
| Sample Type   | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       |
| Sampling Date | 30/06/2021 | 30/06/2021 | 30/06/2021 | 30/06/2021 | 30/06/2021 | 30/06/2021 | 30/06/2021 |
| Sampling Time | n/s        | n/s        | n/s        | n/s        | n/s        | n/s        | n/s        |

| Test                            | Method      | LOD  | Units |        |        |       |        |        |        |        |
|---------------------------------|-------------|------|-------|--------|--------|-------|--------|--------|--------|--------|
| <b>Preparation</b>              |             |      |       |        |        |       |        |        |        |        |
| Stones >10mm                    | DETSC 1003* | 1    | % m/m | 2.0    | 8.0    | 6.0   | < 1.0  | < 1.0  | 19     | 7.0    |
| Moisture Content                | DETSC 1004  | 0.1  | %     | 15     | 11     | 15    | 21     | 18     | 12     | 15     |
| <b>Metals</b>                   |             |      |       |        |        |       |        |        |        |        |
| Arsenic                         | DETSC 2301# | 0.2  | mg/kg | 22     | 10     | 44    | 19     | 17     | 9.4    | 3.8    |
| Boron, Water Soluble            | DETSC 2311# | 0.2  | mg/kg | 0.6    | 0.3    | 0.8   | 0.5    | 0.7    | 0.6    | 0.3    |
| Cadmium                         | DETSC 2301# | 0.1  | mg/kg | 0.4    | 0.2    | 0.5   | 0.3    | 0.3    | 0.2    | < 0.1  |
| Chromium                        | DETSC 2301# | 0.15 | mg/kg | 32     | 24     | 78    | 26     | 23     | 23     | 24     |
| Chromium III                    | DETSC 2301* | 0.15 | mg/kg | 32     | 24     | 78    | 26     | 23     | 23     | 24     |
| Chromium, Hexavalent            | DETSC 2204* | 1    | mg/kg | < 1.0  | < 1.0  | < 1.0 | < 1.0  | < 1.0  | < 1.0  | < 1.0  |
| Copper                          | DETSC 2301# | 0.2  | mg/kg | 45     | 44     | 68    | 44     | 35     | 45     | 40     |
| Lead                            | DETSC 2301# | 0.3  | mg/kg | 90     | 35     | 100   | 63     | 59     | 27     | 23     |
| Magnesium Aqueous Extract       | DETSC 2076* | 10   | mg/l  |        |        |       |        |        | < 10   | < 10   |
| Mercury                         | DETSC 2325# | 0.05 | mg/kg | 0.92   | 0.44   | 0.21  | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Nickel                          | DETSC 2301# | 1    | mg/kg | 24     | 33     | 23    | 24     | 22     | 37     | 41     |
| Selenium                        | DETSC 2301# | 0.5  | mg/kg | < 0.5  | 0.6    | 0.7   | 0.8    | 0.6    | < 0.5  | < 0.5  |
| Vanadium                        | DETSC 2301# | 0.8  | mg/kg | 37     | 27     | 38    | 38     | 33     | 26     | 23     |
| Zinc                            | DETSC 2301# | 1    | mg/kg | 130    | 100    | 150   | 96     | 94     | 80     | 90     |
| <b>Inorganics</b>               |             |      |       |        |        |       |        |        |        |        |
| pH                              | DETSC 2008# |      | pH    | 6.8    | 7.1    | 6.3   | 7.0    | 7.7    | 7.8    | 7.9    |
| Total Organic Carbon            | DETSC 2084# | 0.5  | %     | 4.9    | 4.0    | 5.9   | 4.4    | 4.1    | 3.2    | 1.8    |
| Chloride Aqueous Extract        | DETSC 2055  | 1    | mg/l  |        |        |       |        |        | 2.1    | 2.7    |
| Nitrate Aqueous Extract as NO3  | DETSC 2055  | 1    | mg/l  |        |        |       |        |        | 2.2    | < 1.0  |
| Sulphate Aqueous Extract as SO4 | DETSC 2076# | 10   | mg/l  |        |        |       |        |        | 21     | 22     |
| <b>Petroleum Hydrocarbons</b>   |             |      |       |        |        |       |        |        |        |        |
| EPH (C6-C10)                    | DETSC 3321* | 0.1  | mg/kg | < 0.1  | < 0.1  | < 0.1 |        |        | < 0.1  | < 0.1  |
| EPH (C10-C12)                   | DETSC 3311  | 10   | mg/kg | < 10   | < 10   | < 10  |        |        | < 10   | < 10   |
| EPH (C12-C16)                   | DETSC 3311  | 10   | mg/kg | < 10   | < 10   | < 10  |        |        | < 10   | < 10   |
| EPH (C16-C21)                   | DETSC 3311  | 10   | mg/kg | < 10   | < 10   | < 10  |        |        | < 10   | < 10   |
| EPH (C21-C35)                   | DETSC 3311  | 10   | mg/kg | 16     | < 10   | < 10  |        |        | < 10   | < 10   |
| EPH (C35-C40)                   | DETSC 3311  | 10   | mg/kg | < 10   | < 10   | < 10  |        |        | < 10   | < 10   |
| EPH (C10-C40)                   | DETSC 3311# | 10   | mg/kg | 36     | < 10   | 26    |        |        | < 10   | < 10   |
| <b>PAHs</b>                     |             |      |       |        |        |       |        |        |        |        |
| Naphthalene                     | DETSC 3303# | 0.03 | mg/kg | < 0.03 | < 0.03 | 0.05  | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Acenaphthylene                  | DETSC 3303# | 0.03 | mg/kg | 0.04   | 0.05   | 0.12  | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Acenaphthene                    | DETSC 3303# | 0.03 | mg/kg | 0.04   | 0.04   | 0.12  | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Fluorene                        | DETSC 3303  | 0.03 | mg/kg | < 0.03 | 0.03   | 0.07  | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Phenanthrene                    | DETSC 3303# | 0.03 | mg/kg | 0.08   | 0.10   | 0.16  | 0.05   | 0.05   | 0.04   | < 0.03 |
| Anthracene                      | DETSC 3303  | 0.03 | mg/kg | 0.06   | 0.07   | 0.14  | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Fluoranthene                    | DETSC 3303# | 0.03 | mg/kg | 0.46   | 0.31   | 0.70  | 0.13   | 0.17   | 0.05   | < 0.03 |
| Pyrene                          | DETSC 3303# | 0.03 | mg/kg | 0.40   | 0.26   | 0.60  | 0.11   | 0.15   | 0.05   | < 0.03 |
| Benzo(a)anthracene              | DETSC 3303# | 0.03 | mg/kg | 0.09   | 0.04   | 0.12  | < 0.03 | 0.04   | < 0.03 | < 0.03 |

## Summary of Chemical Analysis

### Soil Samples

Our Ref 21-14190

Client Ref 3319

Contract Title Bradley Villa Farm, Huddersfield

| Lab No        | 1871793    | 1871794    | 1871795    | 1871796    | 1871797    | 1871798    | 1871799    |
|---------------|------------|------------|------------|------------|------------|------------|------------|
| Sample ID     | TP201      | TP202      | TP204      | TP203      | TP205      | TP201      | TP202      |
| Depth         | 0.20       | 0.10       | 0.20       | 0.20       | 0.20       | 0.60       | 1.80       |
| Other ID      |            |            |            |            |            |            |            |
| Sample Type   | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       |
| Sampling Date | 30/06/2021 | 30/06/2021 | 30/06/2021 | 30/06/2021 | 30/06/2021 | 30/06/2021 | 30/06/2021 |
| Sampling Time | n/s        | n/s        | n/s        | n/s        | n/s        | n/s        | n/s        |

| Test                    | Method      | LOD  | Units |        |        |        |        |        |        |        |
|-------------------------|-------------|------|-------|--------|--------|--------|--------|--------|--------|--------|
| Chrysene                | DETSC 3303  | 0.03 | mg/kg | 0.14   | 0.09   | 0.21   | 0.04   | 0.06   | < 0.03 | < 0.03 |
| Benzo(b)fluoranthene    | DETSC 3303# | 0.03 | mg/kg | 0.08   | 0.04   | 0.13   | < 0.03 | 0.05   | < 0.03 | < 0.03 |
| Benzo(k)fluoranthene    | DETSC 3303# | 0.03 | mg/kg | 0.07   | 0.03   | 0.10   | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Benzo(a)pyrene          | DETSC 3303# | 0.03 | mg/kg | 0.07   | 0.03   | 0.13   | < 0.03 | 0.05   | < 0.03 | < 0.03 |
| Indeno(1,2,3-c,d)pyrene | DETSC 3303# | 0.03 | mg/kg | 0.07   | 0.03   | 0.10   | < 0.03 | 0.06   | < 0.03 | < 0.03 |
| Dibenzo(a,h)anthracene  | DETSC 3303# | 0.03 | mg/kg | < 0.03 | < 0.03 | < 0.03 | < 0.03 | < 0.03 | < 0.03 | < 0.03 |
| Benzo(g,h,i)perylene    | DETSC 3303# | 0.03 | mg/kg | 0.06   | < 0.03 | 0.09   | < 0.03 | 0.05   | < 0.03 | < 0.03 |
| PAH - USEPA 16, Total   | DETSC 3303  | 0.1  | mg/kg | 1.7    | 1.0    | 2.8    | 0.33   | 0.68   | 0.14   | < 0.10 |

## Summary of Chemical Analysis

### Soil Samples

Our Ref 21-14190

Client Ref 3319

Contract Title Bradley Villa Farm, Huddersfield

|               |            |            |
|---------------|------------|------------|
| Lab No        | 1871800    | 1871801    |
| Sample ID     | TP204      | TP202      |
| Depth         | 0.40       | 0.90       |
| Other ID      |            |            |
| Sample Type   | SOIL       | SOIL       |
| Sampling Date | 30/06/2021 | 30/06/2021 |
| Sampling Time | n/s        | n/s        |

| Test                            | Method     | LOD  | Units |        |        |
|---------------------------------|------------|------|-------|--------|--------|
| <b>Preparation</b>              |            |      |       |        |        |
| Stones >10mm                    | DETS 1003* | 1    | % m/m | 12     | 16     |
| Moisture Content                | DETS 1004  | 0.1  | %     | 12     | 9.9    |
| <b>Metals</b>                   |            |      |       |        |        |
| Arsenic                         | DETS 2301# | 0.2  | mg/kg | 5.8    | 6.9    |
| Boron, Water Soluble            | DETS 2311# | 0.2  | mg/kg | < 0.2  | 0.3    |
| Cadmium                         | DETS 2301# | 0.1  | mg/kg | < 0.1  | 0.1    |
| Chromium                        | DETS 2301# | 0.15 | mg/kg | 22     | 22     |
| Chromium III                    | DETS 2301* | 0.15 | mg/kg | 22     | 22     |
| Chromium, Hexavalent            | DETS 2204* | 1    | mg/kg | < 1.0  | < 1.0  |
| Copper                          | DETS 2301# | 0.2  | mg/kg | 28     | 43     |
| Lead                            | DETS 2301# | 0.3  | mg/kg | 20     | 21     |
| Magnesium Aqueous Extract       | DETS 2076* | 10   | mg/l  | < 10   | < 10   |
| Mercury                         | DETS 2325# | 0.05 | mg/kg | < 0.05 | < 0.05 |
| Nickel                          | DETS 2301# | 1    | mg/kg | 31     | 40     |
| Selenium                        | DETS 2301# | 0.5  | mg/kg | < 0.5  | < 0.5  |
| Vanadium                        | DETS 2301# | 0.8  | mg/kg | 25     | 24     |
| Zinc                            | DETS 2301# | 1    | mg/kg | 80     | 89     |
| <b>Inorganics</b>               |            |      |       |        |        |
| pH                              | DETS 2008# |      | pH    | 7.8    | 7.7    |
| Total Organic Carbon            | DETS 2084# | 0.5  | %     | 1.4    | 4.0    |
| Chloride Aqueous Extract        | DETS 2055  | 1    | mg/l  | 1.5    | 4.1    |
| Nitrate Aqueous Extract as NO3  | DETS 2055  | 1    | mg/l  | < 1.0  | 3.0    |
| Sulphate Aqueous Extract as SO4 | DETS 2076# | 10   | mg/l  | 37     | 28     |
| <b>Petroleum Hydrocarbons</b>   |            |      |       |        |        |
| EPH (C6-C10)                    | DETS 3321* | 0.1  | mg/kg | < 0.1  | < 0.1  |
| EPH (C10-C12)                   | DETS 3311  | 10   | mg/kg | < 10   | < 10   |
| EPH (C12-C16)                   | DETS 3311  | 10   | mg/kg | < 10   | 11     |
| EPH (C16-C21)                   | DETS 3311  | 10   | mg/kg | < 10   | < 10   |
| EPH (C21-C35)                   | DETS 3311  | 10   | mg/kg | < 10   | < 10   |
| EPH (C35-C40)                   | DETS 3311  | 10   | mg/kg | < 10   | < 10   |
| EPH (C10-C40)                   | DETS 3311# | 10   | mg/kg | < 10   | 22     |
| <b>PAHs</b>                     |            |      |       |        |        |
| Naphthalene                     | DETS 3303# | 0.03 | mg/kg | < 0.03 | < 0.03 |
| Acenaphthylene                  | DETS 3303# | 0.03 | mg/kg | < 0.03 | < 0.03 |
| Acenaphthene                    | DETS 3303# | 0.03 | mg/kg | < 0.03 | < 0.03 |
| Fluorene                        | DETS 3303  | 0.03 | mg/kg | < 0.03 | < 0.03 |
| Phenanthrene                    | DETS 3303# | 0.03 | mg/kg | < 0.03 | 0.06   |
| Anthracene                      | DETS 3303  | 0.03 | mg/kg | < 0.03 | < 0.03 |
| Fluoranthene                    | DETS 3303# | 0.03 | mg/kg | < 0.03 | 0.04   |
| Pyrene                          | DETS 3303# | 0.03 | mg/kg | < 0.03 | 0.04   |
| Benzo(a)anthracene              | DETS 3303# | 0.03 | mg/kg | < 0.03 | < 0.03 |

## Summary of Chemical Analysis

### Soil Samples

Our Ref 21-14190

Client Ref 3319

Contract Title Bradley Villa Farm, Huddersfield

|               |            |            |
|---------------|------------|------------|
| Lab No        | 1871800    | 1871801    |
| Sample ID     | TP204      | TP202      |
| Depth         | 0.40       | 0.90       |
| Other ID      |            |            |
| Sample Type   | SOIL       | SOIL       |
| Sampling Date | 30/06/2021 | 30/06/2021 |
| Sampling Time | n/s        | n/s        |

| Test                    | Method      | LOD  | Units |        |        |
|-------------------------|-------------|------|-------|--------|--------|
| Chrysene                | DETSC 3303  | 0.03 | mg/kg | < 0.03 | < 0.03 |
| Benzo(b)fluoranthene    | DETSC 3303# | 0.03 | mg/kg | < 0.03 | < 0.03 |
| Benzo(k)fluoranthene    | DETSC 3303# | 0.03 | mg/kg | < 0.03 | < 0.03 |
| Benzo(a)pyrene          | DETSC 3303# | 0.03 | mg/kg | < 0.03 | < 0.03 |
| Indeno(1,2,3-c,d)pyrene | DETSC 3303# | 0.03 | mg/kg | < 0.03 | < 0.03 |
| Dibenzo(a,h)anthracene  | DETSC 3303# | 0.03 | mg/kg | < 0.03 | < 0.03 |
| Benzo(g,h,i)perylene    | DETSC 3303# | 0.03 | mg/kg | < 0.03 | < 0.03 |
| PAH - USEPA 16, Total   | DETSC 3303  | 0.1  | mg/kg | < 0.10 | 0.14   |

## Summary of Asbestos Analysis

### Soil Samples

*Our Ref* 21-14190

*Client Ref* 3319

*Contract Title* Bradley Villa Farm, Huddersfield

| Lab No  | Sample ID  | Material Type | Result | Comment* | Analyst       |
|---------|------------|---------------|--------|----------|---------------|
| 1871793 | TP201 0.20 | SOIL          | NAD    | none     | Colin Patrick |
| 1871794 | TP202 0.10 | SOIL          | NAD    | none     | Colin Patrick |
| 1871795 | TP204 0.20 | SOIL          | NAD    | none     | Colin Patrick |
| 1871796 | TP203 0.20 | SOIL          | NAD    | none     | Colin Patrick |
| 1871797 | TP205 0.20 | SOIL          | NAD    | none     | Colin Patrick |
| 1871798 | TP201 0.60 | SOIL          | NAD    | none     | Colin Patrick |
| 1871799 | TP202 1.80 | SOIL          | NAD    | none     | Colin Patrick |
| 1871800 | TP204 0.40 | SOIL          | NAD    | none     | Colin Patrick |
| 1871801 | TP202 0.90 | SOIL          | NAD    | none     | Colin Patrick |

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: \* - not included in laboratory scope of accreditation.

## Information in Support of the Analytical Results

Our Ref 21-14190  
 Client Ref 3319  
 Contract Bradley Villa Farm, Huddersfield

### Containers Received & Deviating Samples

| Lab No  | Sample ID       | Date Sampled | Containers Received | Holding time exceeded for tests | Inappropriate container for tests |
|---------|-----------------|--------------|---------------------|---------------------------------|-----------------------------------|
| 1871793 | TP201 0.20 SOIL | 30/06/21     | GJ 250ml, PT 1L     |                                 |                                   |
| 1871794 | TP202 0.10 SOIL | 30/06/21     | GJ 250ml, PT 1L     |                                 |                                   |
| 1871795 | TP204 0.20 SOIL | 30/06/21     | GJ 250ml, PT 1L     |                                 |                                   |
| 1871796 | TP203 0.20 SOIL | 30/06/21     | GJ 250ml, PT 1L     |                                 |                                   |
| 1871797 | TP205 0.20 SOIL | 30/06/21     | GJ 250ml, PT 1L     |                                 |                                   |
| 1871798 | TP201 0.60 SOIL | 30/06/21     | GJ 250ml, PT 1L     |                                 |                                   |
| 1871799 | TP202 1.80 SOIL | 30/06/21     | GJ 250ml, PT 1L     |                                 |                                   |
| 1871800 | TP204 0.40 SOIL | 30/06/21     | GJ 250ml, PT 1L     |                                 |                                   |
| 1871801 | TP202 0.90 SOIL | 30/06/21     | GJ 250ml, PT 1L     |                                 |                                   |

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

### Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

### Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

**Lithos Consulting Ltd**

Parkhill  
Walton Road  
Wetherby  
LS22 5DZ

For the attention of Charlotte Copley

Report No: B26886

Issue No 01

## LABORATORY TEST REPORT

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |                                           |                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------|------------------------------------------------------------------------|
| Project Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | <b>BRADLEY VILLA FARM, HUDDERSFIELD</b>   |                                                                        |
| Project Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>B26886</b> | Date samples received                     | 06/07/2021                                                             |
| Your Ref                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3319          | Date written instructions received        | 07/07/2021                                                             |
| Purchase Order                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 17777/3319/CC | Date testing commenced                    | 07/07/2021                                                             |
| <b>Please find enclosed the results as summarised below</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |               |                                           |                                                                        |
| Figure / Table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Test Quantity | Description                               | ISO 17025 Accredited                                                   |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3             | Summary of Geotechnical Tests             | See report                                                             |
| 2 - 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 3             | Particle Size Distribution                | Yes                                                                    |
| 5 - 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 3             | Moisture Content/Dry Density Relationship | Yes                                                                    |
| Remarks :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               |                                           |                                                                        |
| Issued by : Stephen Langman                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |               | Date of Issue : 16/07/2021                | Key to symbols used in this report<br>S/C : Testing was sub-contracted |
| Approved Signatories :<br><br>16/07/2021                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |               |                                           |                                                                        |
| S Langman (Laboratory Coordinator), D Bowen (Production Manager)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |               |                                           |                                                                        |
| <p>Unless we are notified to the contrary, samples will be disposed after a period of one month from this date.</p> <p>The results reported relate to samples received in the laboratory only.</p> <p>All results contained in this report are provisional unless signed by an approved signatory</p> <p>This report should not be reproduced except in full without the written approval of the laboratory.</p> <p>Under multisite accreditation the testing contained in this report may have been performed at another Terra Tek laboratory.</p> <p>The enclosed results remain the property of Terra Tek Limited and we reserve the right to withdraw our report if we have not received cleared funds in accordance with our standard terms and conditions</p> <p><b>Only those results indicated in this report are UKAS accredited and any opinions or interpretations expressed are outside the scope of UKAS accreditation.</b></p> <p>Feedback on the this report may be left via our website <a href="http://www.terratek.co.uk/contact-us">www.terratek.co.uk/contact-us</a></p> |               |                                           |                                                                        |



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|                                                                            |         |                          |             |                                                                          |                                                                                                |                          |                  |                                                                      |                  |                           |                          |                  |         |     |                            |                           |                     |                                  |                      |                        |   |
|----------------------------------------------------------------------------|---------|--------------------------|-------------|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------|------------------|----------------------------------------------------------------------|------------------|---------------------------|--------------------------|------------------|---------|-----|----------------------------|---------------------------|---------------------|----------------------------------|----------------------|------------------------|---|
| <div>TERRA TEK</div> <div>SITE INVESTIGATION AND LABORATORY SERVICES</div> |         |                          |             | Site<br>BRADLEY VILLA FARM, HUDDERSFIELD                                 |                                                                                                |                          |                  |                                                                      |                  |                           |                          |                  |         |     |                            | Contract No 3319          |                     |                                  |                      |                        |   |
|                                                                            |         |                          |             | Client                                                                   |                                                                                                |                          |                  |                                                                      |                  |                           |                          |                  |         |     |                            |                           |                     |                                  |                      |                        |   |
|                                                                            |         |                          |             | Engineer                                                                 |                                                                                                |                          |                  |                                                                      |                  |                           |                          |                  |         |     |                            |                           |                     |                                  |                      |                        |   |
| Sample Identification                                                      |         |                          |             | Lab Sample ID                                                            | Non Engineering Sample Description                                                             | Water Content            | Atterberg limits |                                                                      |                  |                           |                          | Particle Density | Density |     | Total Stress               |                           |                     |                                  | Thermal Conductivity | Electrical Resistivity |   |
| Exploratory Hole                                                           | Depth m | Sample Ref               | Sample Type |                                                                          |                                                                                                |                          | Liquid Limit     | Plastic Limit                                                        | Plasticity Index | Percentage retained 425µm | Atterberg Classification |                  | Bulk    | Dry | Shear Strength (Hand Vane) | Shear Strength (Triaxial) | Apparent Cohesion C | Angle of Shearing Resistance Phi |                      |                        |   |
| TP201                                                                      | 1.00    |                          | B           | 783435                                                                   | Grey sandy CLAY/ SILT with some gravel. Gravel is fine to coarse.                              | 15.3                     |                  |                                                                      |                  |                           |                          |                  |         |     |                            |                           |                     |                                  |                      |                        |   |
| TP202                                                                      | 1.60    |                          | B           | 783436                                                                   | Grey sandy CLAY/ SILT with much gravel. Gravel is fine to cobble size.                         | 17.5                     |                  |                                                                      |                  |                           |                          |                  |         |     |                            |                           |                     |                                  |                      |                        |   |
| TP204                                                                      | 1.80    |                          | B           | 783438                                                                   | Grey mottled brown slightly sandy CLAY/ SILT with occasional gravel. Gravel is fine to medium. | 20.2                     |                  |                                                                      |                  |                           |                          |                  |         |     |                            |                           |                     |                                  |                      |                        |   |
| Notes                                                                      |         |                          |             | Opinions and interpretations are outside the scope of UKAS accreditation |                                                                                                | UKAS Accredited Test Y/N |                  | Test details are given on the 'Notes on Laboratory Procedures' sheet |                  |                           |                          |                  |         |     |                            |                           |                     |                                  |                      |                        |   |
|                                                                            |         |                          |             |                                                                          |                                                                                                | Y                        |                  | Y                                                                    | Y                | Y                         | Y                        | -                | Y       | Y   | Y                          | N                         | Y                   | -                                | -                    | N                      | N |
| Originator                                                                 |         | Checked & Approved       |             | SUMMARY OF GEOTECHNICAL TESTS                                            |                                                                                                |                          |                  |                                                                      |                  |                           |                          |                  |         |     |                            |                           |                     |                                  |                      | <div>Tk</div> Figure 1 |   |
| CR                                                                         |         | S. Langman<br>16/07/2021 |             |                                                                          |                                                                                                |                          |                  |                                                                      |                  |                           |                          |                  |         |     |                            |                           |                     |                                  |                      |                        |   |

TERRA TEK

SITE INVESTIGATION AND LABORATORY SERVICES

Site

BRADLEY VILLA FARM, HUDDERSFIELD

Client

Engineer

Contract No

3319

Hole

TP201

Sample Ref

Depth (m)

1.00

Sample Type

B

| Particle Size | % Passing |
|---------------|-----------|
| 125.0 mm      | 100       |
| 90.0 mm       | 100       |
| 75.0 mm       | 100       |
| 63.0 mm       | 100       |
| 50.0 mm       | 100       |
| 37.5 mm       | 100       |
| 28.0 mm       | 98        |
| 20.0 mm       | 95        |
| 14.0 mm       | 94        |
| 10.0 mm       | 92        |
| 6.30 mm       | 89        |
| 5.00 mm       | 86        |
| 3.35 mm       | 84        |
| 2.00 mm       | 80        |
| 1.18 mm       | 76        |
| 630 µm        | 72        |
| 425 µm        | 69        |
| 300 µm        | 68        |
| 200 µm        | 65        |
| 150 µm        | 65        |
| 63 µm         | 62        |

Non Engineering Description

Grey sandy CLAY/ SILT with some gravel. Gravel is fine to coarse.

Sample Proportions - %

|             |      |
|-------------|------|
| Cobbles     | 0.0  |
| Gravel      | 19.8 |
| Sand        | 18.4 |
| Silt & Clay | 61.8 |

Particle Diameter - mm

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| D100                                                              | 38  |
| D60                                                               |     |
| D10                                                               |     |
| Uniformity Coefficient<br>(SHW series 600, Table 6/1, footnote 5) | N/A |

Notes

|      |      |        |        |      |        |        |        |        |        |         |
|------|------|--------|--------|------|--------|--------|--------|--------|--------|---------|
| Clay | Fine | Medium | Coarse | Fine | Medium | Coarse | Fine   | Medium | Coarse | Cobbles |
|      | Silt |        |        | Sand |        |        | Gravel |        |        |         |

Percentage Passing - %

| Particle Size - mm | Percentage Passing - % |
|--------------------|------------------------|
| 0.075              | 62                     |
| 0.15               | 65                     |
| 0.3                | 68                     |
| 0.6                | 72                     |
| 1.2                | 76                     |
| 2.5                | 80                     |
| 5.0                | 84                     |
| 10                 | 86                     |
| 20                 | 89                     |
| 40                 | 92                     |
| 75                 | 94                     |
| 150                | 95                     |
| 300                | 98                     |
| 600                | 98                     |
| 1250               | 100                    |

Particle Size - mm

Originator

TJH

Checked & Approved

S. Langston

16/07/2021

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Tk

Figure 2

Sheet 1 of 1

TERRA TEK

SITE INVESTIGATION AND LABORATORY SERVICES

Site

BRADLEY VILLA FARM, HUDDERSFIELD

Client

Engineer

Contract No

3319

Hole

TP202

Sample Ref

Depth (m)

1.60

Sample Type

B

| Particle Size | % Passing |
|---------------|-----------|
| 125.0 mm      | 100       |
| 90.0 mm       | 100       |
| 75.0 mm       | 100       |
| 63.0 mm       | 96        |
| 50.0 mm       | 95        |
| 37.5 mm       | 93        |
| 28.0 mm       | 86        |
| 20.0 mm       | 83        |
| 14.0 mm       | 81        |
| 10.0 mm       | 74        |
| 6.30 mm       | 71        |
| 5.00 mm       | 66        |
| 3.35 mm       | 61        |
| 2.00 mm       | 56        |
| 1.18 mm       | 52        |
| 630 µm        | 50        |
| 425 µm        | 49        |
| 300 µm        | 48        |
| 200 µm        | 47        |
| 150 µm        | 45        |
| 63 µm         | 44        |

Non Engineering Description

Grey sandy CLAY/ SILT with much gravel. Gravel is fine to cobble size.

Sample Proportions - %

|             |      |
|-------------|------|
| Cobbles     | 4.1  |
| Gravel      | 39.6 |
| Sand        | 11.9 |
| Silt & Clay | 44.5 |

Particle Diameter - mm

|                                                                                  |     |
|----------------------------------------------------------------------------------|-----|
| D100                                                                             | 75  |
| D60                                                                              | 3.1 |
| D10                                                                              |     |
| Uniformity Coefficient<br><small>(SHW series 600, Table 6/1, footnote 5)</small> | N/A |

Notes

|      |      |        |        |      |        |        |        |        |        |         |
|------|------|--------|--------|------|--------|--------|--------|--------|--------|---------|
| Clay | Fine | Medium | Coarse | Fine | Medium | Coarse | Fine   | Medium | Coarse | Cobbles |
|      | Silt |        |        | Sand |        |        | Gravel |        |        |         |

Percentage Passing - %

| Particle Size (mm) | Percentage Passing (%) |
|--------------------|------------------------|
| 0.075              | 44                     |
| 0.15               | 45                     |
| 0.3                | 47                     |
| 0.6                | 50                     |
| 1.2                | 52                     |
| 2.5                | 56                     |
| 5.0                | 66                     |
| 10                 | 74                     |
| 20                 | 83                     |
| 40                 | 93                     |
| 75                 | 100                    |

Particle Size - mm

Originator

DS

Checked & Approved

*S. Langston*  
16/07/2021

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Tk

Figure 3

Sheet 1 of 1

TERRA TEK

SITE INVESTIGATION AND LABORATORY SERVICES

Site

BRADLEY VILLA FARM, HUDDERSFIELD

Client

Engineer

Contract No

3319

Hole

TP204

Sample Ref

Depth (m)

1.80

Sample Type

B

Particle Size

% Passing

125.0 mm

100

90.0 mm

100

75.0 mm

100

63.0 mm

100

50.0 mm

100

37.5 mm

100

28.0 mm

100

20.0 mm

100

14.0 mm

99

10.0 mm

97

6.30 mm

96

5.00 mm

96

3.35 mm

96

2.00 mm

95

1.18 mm

94

630 µm

94

425 µm

93

300 µm

93

200 µm

93

150 µm

92

63 µm

92

Non Engineering Description

Grey mottled brown slightly sandy CLAY/ SILT with occasional gravel. Gravel is fine to medium.

Sample Proportions - %

Cobbles

0.0

Gravel

5.0

Sand

3.1

Silt & Clay

91.9

Particle Diameter - mm

D100

20

D60

D10

Uniformity Coefficient

(SHW series 600, Table 6/1, footnote 5)

N/A

Notes

Clay

Fine

Medium

Coarse

Fine

Medium

Coarse

Fine

Medium

Coarse

Cobbles

Silt

Sand

Gravel

Percentage Passing - %

Particle Size - mm

100

90

80

70

60

50

40

30

20

10

0

0.002

0.006

0.02

0.06

0.2

0.6

2

6

20

60

200

Originator

Checked & Approved

TJH

S. Langston  
16/07/2021

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Tk

Figure 4

Sheet 1 of 1

Site BRADLEY VILLA FARM, HUDDERSFIELD

Client

Engineer

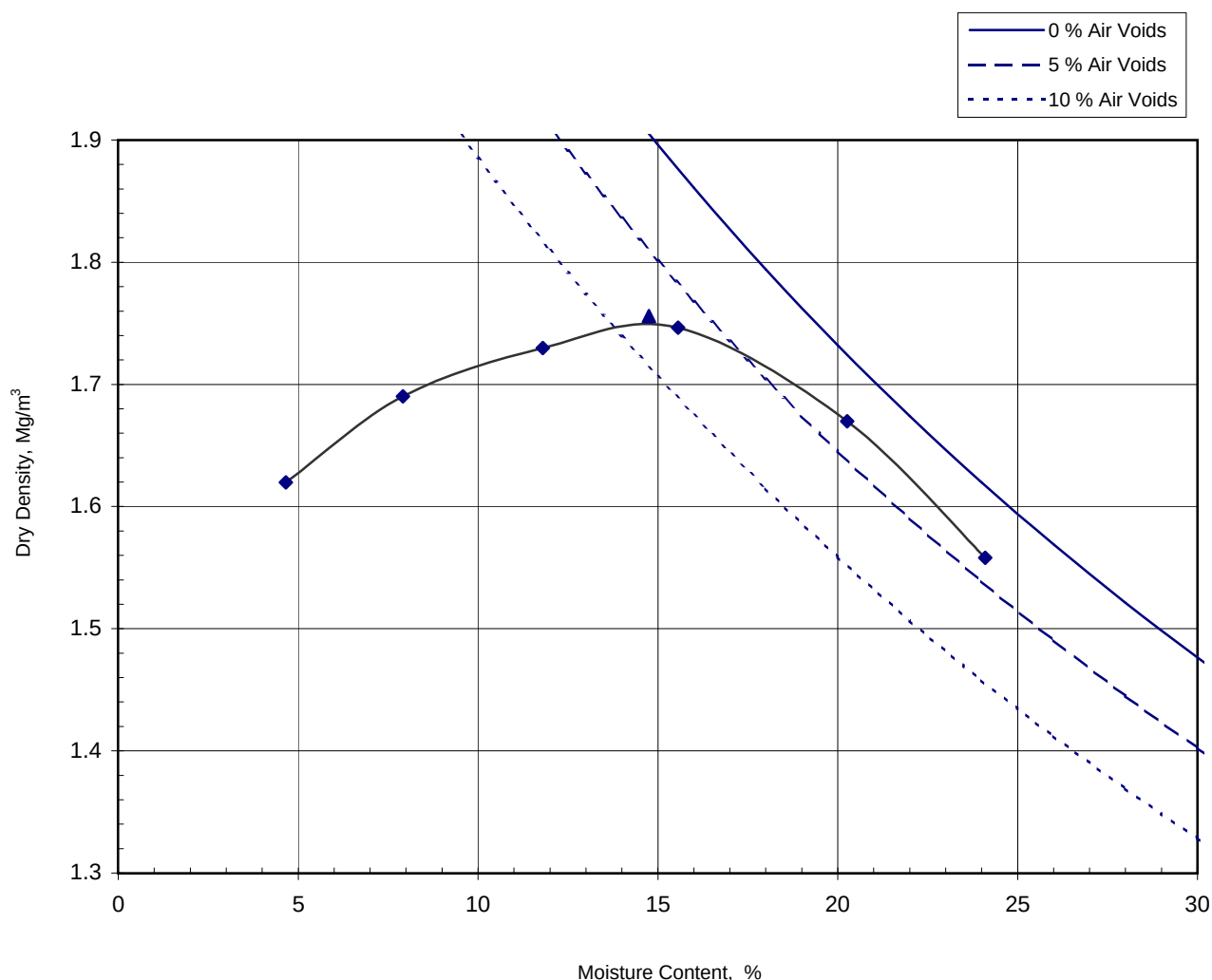
Contract No **3319**

Hole TP201

Sample Ref

Depth (m) 1.00

Sample Type B



|                                |                                                                      |
|--------------------------------|----------------------------------------------------------------------|
| Non Engineering Description    | Grey sandy CLAY/ SILT with some gravel.<br>Gravel is fine to coarse. |
| Preparation                    | Air dried                                                            |
| Test Method                    | 2.5kg Rammer for soils with particles up to medium-gravel size       |
| Samples Used                   | Single                                                               |
| Mass Retained on 37.5 mm Sieve | %                                                                    |
| Mass Retained on 20.0 mm Sieve | %                                                                    |
| Particle Density - Assumed     | Mg/m <sup>3</sup>                                                    |
| Natural Moisture Content       | %                                                                    |
| Maximum Dry Density            | Mg/m <sup>3</sup>                                                    |
| Optimum Moisture Content       | %                                                                    |

Originator

Checked &amp; Approved

RH/PM

*S. Langman*  
16/07/2021

## Moisture Content / Dry Density Relationship

BS1377:Part 4:1990 Clause 3.3



Figure 5

Sheet 1 of 1

Site BRADLEY VILLA FARM, HUDDERSFIELD

Client

Engineer

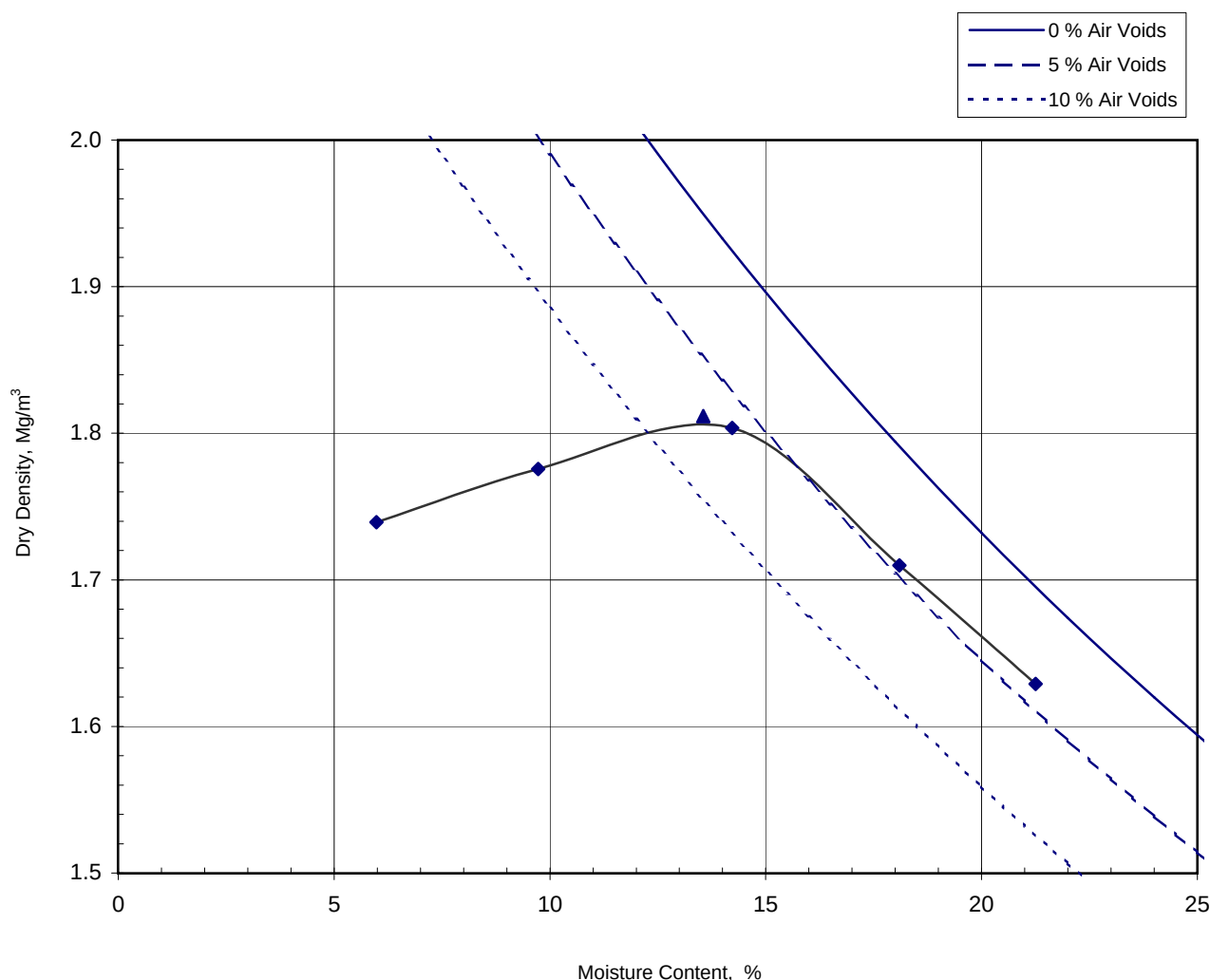
Contract No **3319**

Hole TP202

Sample Ref

Depth (m) 1.60

Sample Type B



|                                |                                                                           |
|--------------------------------|---------------------------------------------------------------------------|
| Non Engineering Description    | Grey sandy CLAY/ SILT with much gravel.<br>Gravel is fine to cobble size. |
| Preparation                    | Air dried                                                                 |
| Test Method                    | 2.5kg Rammer for soils with particles up to medium-gravel size            |
| Samples Used                   | Single                                                                    |
| Mass Retained on 37.5 mm Sieve | % 5                                                                       |
| Mass Retained on 20.0 mm Sieve | % 9                                                                       |
| Particle Density - Assumed     | Mg/m³ 2.65                                                                |
| Natural Moisture Content       | % 18                                                                      |
| Maximum Dry Density            | Mg/m³ 1.81                                                                |
| Optimum Moisture Content       | % 13.6                                                                    |

Originator

Checked &  
Approved

JC/PM

*S. Langman*  
 16/07/2021
**Moisture Content / Dry Density Relationship**

BS1377:Part 4:1990 Clause 3.3



Figure 6

Sheet 1 of 1

Site BRADLEY VILLA FARM, HUDDERSFIELD

Client

Engineer

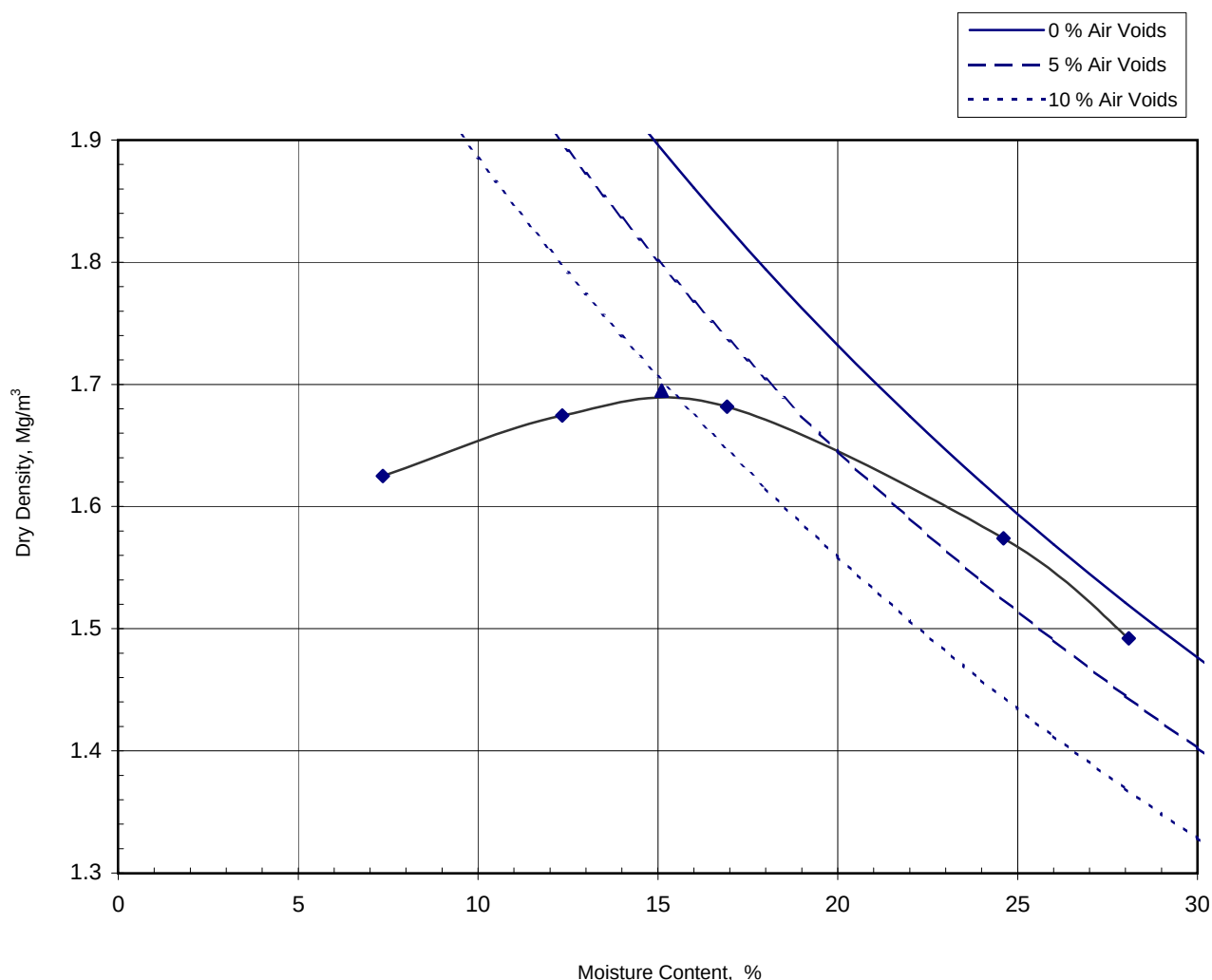
Contract No **3319**

Hole TP204

Sample Ref

Depth (m) 1.80

Sample Type B



|                                |                                                                                                |
|--------------------------------|------------------------------------------------------------------------------------------------|
| Non Engineering Description    | Grey mottled brown slightly sandy CLAY/ SILT with occasional gravel. Gravel is fine to medium. |
| Preparation                    | Air dried                                                                                      |
| Test Method                    | 2.5kg Rammer for soils with particles up to medium-gravel size                                 |
| Samples Used                   | Single                                                                                         |
| Mass Retained on 37.5 mm Sieve | 0                                                                                              |
| Mass Retained on 20.0 mm Sieve | 0                                                                                              |
| Particle Density - Assumed     | 2.65                                                                                           |
| Natural Moisture Content       | 20                                                                                             |
| Maximum Dry Density            | 1.69                                                                                           |
| Optimum Moisture Content       | 15.1                                                                                           |

Originator

Checked &amp; Approved

JC/PM

*S. Langman*  
 16/07/2021
**Moisture Content / Dry Density Relationship**

BS1377:Part 4:1990 Clause 3.3



Figure 7

Sheet 1 of 1